Plates bearing the legend "Roxburghianae" represent redrawings of Roxburgh's unpublished plates now at the Calcutta Botanic Garden, and thus represent Roxburghian species as described in his "Flora Indica" ed. 1,1 (1820), 2 (1824), and ed. 2 (1832). Where two numbers appear, one above the other, the "numerator" represents Wight's plate sequence (this number to be cited), the "denominator" a reference to the species number in Wight & Arnott's "Prodromus" (1834).

ICONES

PLANTARUM INDIÆ ORIENTALIS,

OR

FIGURES OF INDIAN PLANTS.

BY

ROBERT WIGHT, M. D., F. L. S., &c.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM,

OF THE ROYAL RATISBON BOTANICAL SOCIETY, &c. &c. &c.

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EXPLANATION OF PLATES.

VOL. III.—PART I.

737. Salicornia indica (Vahl. Roxb.) Perennial, diffuse; joints gibbous: spikes cylindrical, flowers hid. —*Roxb. Fl. Ind.* 1 p. 85.

Very abundant on the sea coast at various Stations in the Northern Circars. I have also met with both species further South, but not so abundant. Floral joints very short: flowers inconspicuous opposite three-fold, hid by the upper margin of the next floral leaf below: calyx a flask-like fleshy substance with a slit for the style, in this species I have never been able to discover even the rudiments of a stamen.—*Roxb.*

1 A flowering branch—2 a floral joint with 3 flowers —3 female flower magnified and cut vertically to show the ovary—4 a detached flower natural size—Seed detached enveloped in its persistent calyx.

738. Salicornia brachiata (Roxb.) Pirennial erect: branches numerous, dicussate, joints clubbed: spikes cylindrical: flowers conspicuous.—*Roxb. Fl. Ind.* 1. 84.

Native of the sea coast. Roxburgh suggests that this species should be compared with *S. herbacea*, others have referred it with doubt to *S. fruticosa.*

1 Portion of a flowering plant full sized—2 floral joint with 6 flowers three uncovered and three above *in situ* —3 a flower detached showing the position of the stamen and ovary—4 ovary natural size—5 seed enclosed in the capsule or persistent calyx.

739. Corchorus acutangulus (Lam.) annual: leaves ovate: peduncles opposite to the leaves, 1-2-flowered: capsules prismatical, straight, glabrous, stout, about 10 times longer than broad, 6-angled with 2-3 of the angles winged, 3-celled, truncate with 3-5 divaricating entire or bifid horns: seeds numerous in each cell, with the transverse septa nearly obsolete.—W. and A. Prod. 1 p. 73.

Common in pastures and cultivated grounds by the banks of ditches &c.

1 Portion of a plant bearing flowers and fruit—2 a flower showing the subulate bracteæ—3 a flower fully expanded showing the stamens—4 the same partially dissected to show the ovary and style—5 detached stamens —6 ovary cut transversely ovules surrounded by pulp —7 cut longitudinally—8 a nearly mature capsule cut transversely—9 a seed—10 the same cut vertically—11 embryo and radicle detached, all except the first magnified.

740. Vitis (Cissus) muricata (Wall. :) unisexual, glabrous except the densely pubescent inflorescence: stem woody; brances terete, with a rugulose, muricated bark: leaves petioled, trifoliolate; leaflets stalked, firm and somewhat coriaceous, distantly serrated (the serratures shallow, tipped with a hardened gland), oblong, acuminated; lateral ones broader, unequal-sided: umbels shortly peduncled, with bracteas at the base of the peduncle, axillary, not so long as the petiole, twice compound, with 3-5 primary branches: petals distinct: style very short, thick: stigma large, capitate, somewhat lobed: fruit globose (about the size of a cherry), 2-4-seeded.— W. and A. Prod. p. 1 128.

Found not unfrequent in subalpine jungles climbing among bushes to a great extent.

1 Portion of a flowering branch—2 a flower magnified —3 a cluster of immature fruit—4 a berry cut transversely magnified.

741. Impatiens cuspidata (W. and A.) herbaceous erect glabrous, sparingly ramous: leaves alternate, long petioled, membranacious, oblong lanceolate attenuated at both ends, serrated; nerves beneath sprinkled with tawny hairs: pedicels axillary, slender, shorter than the leaves, solitary or in pairs, when in fruit, erect: lateral sepals small subulate pointed, upper one deeply obcordate subcuniate, furnished on the back with a projecting horn-like appendage; lower one cuspidate at the apex, terminating below in a long, slender, straight spur, gibbous at the point: petals two-lobed, upper ones large slightly bifid; lower vertical, (pointing to the earth) cuspidate, capsule glabrous, oblong, attenuated at both ends: seeds ovate, reticulated; reticulations hairy. R. W. *Arnott, Comp. Bot. Mag.* 1 p. 221.

Neilgherries, in moist woods near Kotergherry. This species is allied in some points to *I. Leschenaultii*, as well as to *I. latifolia*, but is readily distinguished from both by the form of the flowers, the straight spur, and the reticulated seed.

742. Impatiens dasysperma (R. W.) herbaceous, erect, unbranched: leaves petioled, alternate, ovate-lanceolate acute, hairy above, glabrous beneath, crenate-serrated; petiols glanduliferous: pedicels axillary, solitary or paired, erect, scarcely half the length of the leaves: flowers rather small: upper sepal obcordate cuniate, cuspidate; lateral ones minute: lobes of the petals nearly equal scarcely half the length of the slender curved hairy spur; capsule glabrous ovate many seeded: seeds hairy. *R. W. Madras Journal.*

Courtallum in dense jungles flowering August and September.

1 A flowering plant natural size—2 a detached flower—3 ovary stamens and spur—4 stamens detached —5 ovary and lateral sepals—6 ovary cut vertically—7 ovary cut transversely—8 a mature seed natural size— 9 the same magnified—10 seed cut transversely.

743. Impatiens albida (R. W.) suffruticose erect, ramous, branches terete, marked with numerous scars of fallen leaves: leaves ovate lanceolate pointed, slightly serrated, attenuated at the base, tomentose: pedicels solitary, as long as the leaves glabrous: upper sepal large, broadly emarginate villous above; lower one tomentose: spur slender tapering curved, nearly twice the length of the flowers: lateral sepals cordate acuminated: petals deeply two-lobed, the upper lobes larger: ovary hairy; ovules few. *R. W. Madras Journal.*

Courtallum rare, growing at an elevation of between 2500 and 3000 feet among rocky clifts in exposed situations. I have since found it on the Pulney mountains, on the rocky banks of a stream, but so much more luxuriant that it did not seem to be the same plant. Flowers pure white.

1 Flowering branch natural size—2 detached flower —3 stamens ovary and sepals—4 stamens—5 ovary detached—6 the same cut vertically.

744. Impatiens campanulata (R. W.) herbaceous erect, sparingly branched, glabrous: stem and branches terete: leaves alternate, long petioled, broadly ovate lanceolate acute, encurved bristle serrated; beneath glaucous with the veins very prominent: peduncles axillary erect, shorter than the leaves, three-flowered; pedicels about the length of the flower: upper sepal keeled above; lower ventricose with a short encurved spur; lateral ones large naviculate about the length of the others: upper lobes of the petals mucronate short; lower ones large exceeding the upper sepal: capsule ovate attenuated at both ends glabrous: seeds echinate. *R. W. Madras Journal of Science.*

A very handsome species found in moist woods on the Pulney mountains at an elevation of about 5500 feet. Flowers cream coloured speckled with purple. The large size and incurving of the upper sepal over the edges of the petals gives the flower a campanulate shape (whence the name) not easily represented on paper.

1 Flowering branch—2 dissected flower—3 detached stamens—4 detached ovary—5 ovary cut vertically—6 capsule cut transversely—7 placenta detached with the seed adhering—8 a seed—9 the same cut transversely—10 a seed cut longitudinally.

745. Impatiens umbellata (Heyne:) herbaceous erect; root tuberous: leaves crowded towards the top of the stem broadly ovate-lanceolate, obtuse, crenately serrated; above sprinkled with short hairs, below glabrous, and usually purplish coloured: peduncles shorter than the leaves, bearing from 4 to 6 rather large pedicelled flowers: upper sepal orbicular nearly equalling the petals, not furnished with a herbaceous point. spur slender tapering curved, longer than the petals: lobes of the petals about equal lower one broader: capsule glabrous many seeded: seeds echinate.—*R. W. Madras Journal of Science.*

Courtallum in moist jungles flowering August and September. The lower surface of the leaves is usually tinged with a dark brownish purple but not always.

1 Flowering plant—2 dissected flower—3 stamens—4 ovary and lateral sepals—5 ovary cut vertically—6 cut transversely—7 a seed—8 cut transversely.

746. Impatiens viscida (R. W.) herbaceous diffuse rooting at the lower joints afterwards erect, stem angled, with a few bristly hairs scattered over it: leaves alternate, longish petioled, ovate pointed serrated; veins on both sides covered with stiff erect hairs: peduncles axillary erect, filiform, viscid, 2-4 flowered, usually shorter than the leaf: flowers large, all the sepals about equal, the lower furnished with a long tapering spur, nearly twice the length of the flower, lateral ones ovate cordate: upper lobes of the petals larger than the sepals, but much smaller than the lower ones: capsule glabrous, tapering at both ends, ventricose: seeds pendulous hairy.—*R. W. Madras Journal of Science.*

Pulney mountains at an elevation of 5500 feet in wet swampy ground, flowers light purplish or deep pink colour, the peduncles covered with a viscid secretion whence the name.

1 Flowering branch—2 dissected flower—3 stamens—4 ovary—5 ovary cut vertically—6 capsule cut transversely, showing the hairy seed.

747. Impatiens uncinata (R.W.) herbaceous erect: leaves ovate or cordate acuminated, serrated, hairy on the veins; above, glabrous beneath; petiols glanduliferous at the apex: peduncles axillary solitary, nearly as long as the leaves, 4-8 flowered: lateral sepals about half the length of the upper one, ovate pointed, lower campanulate: spur shorter than the flower, ventricose, hooked at the point: lower lobes of the petals declining larger than the upper ones: capsule attenuated below beaked above, few seeded.—*R. W. Madras Journal of Science.*

Courtallum in dense, moist, forests flowering August and September.

748. Impatiens fasciculata (Lam.:) stems erect, glabrous: leaves opposite, almost sessile, from narrow-linear to lanceolate, usually rounded or cordate at the base, serrated; upper side somewhat hispid; under glabrous, whitish, and marked with coloured nerves: pedicels usually in pairs, slender, elongated, sometimes nearly as long as the leaves: sepals all with a callous point; lateral ones linear, falcate; posterior roundish-ovate, larger than the posterior but only half the size of the large anterior semi-obovate lobes of the petals; lower widely-infundibuliform, with a tapering slender spur about as long as the pedicel: stigmas combined: capsule oblong, a little ventricose, tapering at both ends.—W. and A. Prod. p. 138.

This plant occupies a wide range of elevation extending from about the sea level in Malabar to 8000 feet of elevation on the Neilgherries, where it abounds in marshy grounds decorating them with its large showy pink flowers.

1 Flowering plant—2 dissected flower—3 stamens *in situ*—4 stamens detached—5 ovary—6 cut vertically—7 capsule cut transversely—8 plants and seed—9 a seed—10 the same cut transversely.

749. Impatiens tomentosa (Heyne:) stems diffuse, glabrous: leaves opposite, sessile, linear-lanceolate, obtuse, acutely serrated; upper side slightly hispid; under pale, glabrous: pedicels axillary, solitary or in pairs, pubescent, about as long as the leaves, in fruit deflexed: anterior sepal cucullate, with the spur short and inflated at the point: stigmas united: capsule oblong, tapering at both ends.—W. and A. Prod. p. 139.

In marshy pastures, Neilgherries, Pulney mountains, and Mysore, flowering August and September. The specimen figured is rather a large one, I have frequently met with it not 3 inches high.

750. Impatiens rosmarinifolia (Retz.) herbaceous erect, ramous, glabrous: leaves opposite subsessile cordate at the base, linear lanceolate, serrated: pedicels axillary solitary or paired, shorter than the leaves: upper sepal vaulted broad ovate, pointed, nearly equalling the lower: upper lobes of the petals much smaller than the lower: spur short conical: fructiferous peduncles erect capsule ovate.

Courtallum in moist woods flowering August and September. Dr. Arnott likewise describes this species from Ceylon specimens, sent to England by Colonel Walker, in terms that leaves no doubt of his plant being identical with the one here figured.

1 Plant natural size—2 detached flower magnified—3 dissected flower—4 ovary—5 ovary cut vertically—6 a nearly mature capsule cut transversely.

751. Impatiens rivalis (R. W.) herbaceous, root tuberous: leaves all radical, ovate oblong, somewhat oblique at the base, serrated, above hairy, glaucous and glabrous beneath: scape racimose many flowered: flowers large drooping long pedicelled from the axils of small fleshy bracteas: upper sepal obtuse vaulted above, lateral ones minute, lower large ovate ending in a long curved spur nearly twice the length of the petals: petals large spreading the lower lobe deeply 2-cleft: capsule erect glabrous many seeded seeds hispid.—*R. W. Madras Journal of Science.*

Courtallum on clifts of rock at what is called "Five Falls" where it is constantly, during the flowering season (August and September) exposed to the spray from the adjoining cataracts.

1 Flowering plant—2 detached flower—3 stamens—4 sepals—5 a half grown capsule cut vertically—6 cut transversely—7 a seed—8 the same cut transversely.

752. Crotalaria Notonii (W. and A.:) suffruticose, erect: branches divaricating, shortish, tomentose: stipules narrow-subulate: leaves slightly approximated, trifoliolate, long-petioled; leaflets cuneate-obovate, scarcely retuse, mucronate, rather longer than the petiole (from a half to an inch long, and one-third of an inch broad); upper side glabrous; under paler, sprinkled with minute adpressed hairs; racemes terminal or leaf-opposed, shortish (2-3 inches long), many-flowered: flowers approximated (pretty large): bracteas linear.—W. and A. Prod. p. 192.

Neilgherries near Kotergherry, August.

1 Flowering branch—2 detached flower—3 dissected flower—4 stamens showing the elongated form of the anthers of the shorter series—5 stamens of the longer series with their round anthers—6 ovary cut lengthwise with 2 ovules—7 legume full grown 1-seeded—8 seed—9 cut longitudinally shewing the cotyledons and radical——10 Embryo detached.

753. Canavalia gladiata (D. C.:) perennial, twining, glabrous: leaflets cordate-ovate, rather acute: legumes 5-10 times (or more) longer than broad.—W. and A. Prod. 1 p. 253

A common plant in hedges and thickets much cultivated for the beams which are used as a potherb.

754. Atylosia candollii (W. and A.:) erect: branches straight, twiggy; young parts villous with fulvous hairs: leaflets oval; upper side even, pubescent; under reticulated, shortly tomentose, villous on the nerves and margin: stipules lanceolate, acuminated, spreading: peduncles 2-flowered, longish: calyx villous; segments lanceolate-acuminated, curved upwards, lowest one about half the length of the keel: spurs of the vexillum introflexed, slightly callous: legumes villous.—W. and A. Prod. p. 257.

Neilgherries, where it is most abundant from an elevation of about 5500 feet to the top. It seems to be in flower at all seasons, flowers yellow.

1 Flowering branch—2 dissected flower—3 stamens—4 dissected ovary—5 dissected legume—6 detached seed showing the carunculus—7 seed cut transversely—8 embryo detached.

755. Phaseolus lunatus (Linn.:) biennial, usually twining, glabrous or pubescent: leaflets ovate, acuminated: stipules minute, reflexed, caducous: racemes shorter than the leaves, peduncled, the floriferous part elongated: pedicels in pairs: bracteoles narrow, small, shorter than the calyx, adpressed, caducous: legumes pendulous, scimitar-shaped, long-mucronate, not torulose, glabrous, 2-4-seeded: seeds oblong, compressed.—W. and A. Prod. 1 p. 244.

Much cultivated but seldom if ever found in a truly wild state. A large podded variety of this is the well known " Duffen Bean" of India, said to have been introduced by Dr. Duffen from the Mauritius, whence the name.

756. Desmanthus triquitrus (Willd.:) bi-triennial, prostrate: stem compressed, triquetrous below: leaves bipinnated; pinnæ 2-3 pair; leaflets 10-12 pair: stipules subulate: peduncles axillary, solitary, naked or with 2 caducous bracteas about the middle: flowers globular-headed; 5-petaled, decandrous; legumes stalked, linear-oblong, equal-sided, 4-6-seeded.—W. and A. Prod. 1 p. 270.

Found in wet pasture ground near the coast flowering during the rains. The specimen here figured was gathered at Madras.

1 A small plant natural size—2 a fertile flower—3 dissected flower—4 stamens—5 dissected ovary—6 a pod nearly mature—7 a dissected seed—8 embryo detached—9 a sterile flower—10 a pair of leaflets to show their form and cells.

757. Cassia (Senna) obtusa (Roxb.:) perennial, herbaceous, diffuse, procumbent, branches glabrous: leaflets 4-6 pair, obtuse, mucronate, unequal at the base, glabrous: petioles and rachis without glands: stipules lanceolate-subulate, tapering, spreading, persistent: racemes axillary, few-flowered, much shorter than the leaves: pedicels without bracteas, legumes lunate, broad, thin, obtuse; valves protuberant and slightly angled but scarcely crested at the seeds.—W. and A. Prod. 1 p. 288.

Frequent in pastures and cultivated grounds all over the Southern provinces of India. Is much used by the natives as a substitute for Senna.

758. Bryonia mysorensis (Klein. in herb. Madr.!) stems glabrous, smooth: tendrils simple: leaves cordate, repand-toothed, usually 5-angled or lobed; slightly scabrous: male flowers in a simple or proliferous umbel at the apex of a long slender peduncle; female very shortly peduncled, solitary, often in the same axils with the males, rarely several umbellate at the apex of a long peduncle: calyx-tube and ovary narrow-oval: berry longish-oval, glabrous, copiously marked before maturity with small shallow pits: seeds smooth, surrounded with a zone, quite flat on the sides.—W. and A. Prod. p. 1 345.

Mysore, Neilgherries, &c. climbing among hedges and bushes. Between this and *B. Hookeriana*, extended and more careful observation has satisfied me there is no difference, nothing being more common than to find both forms on the same plant or even on the same branch.

1 Flowering branch—2 male flower—3 same dissected—4 stamens—5 female flower—6 same dissected—7 umbel of fertile flowers—8 ovary cut vertically—9 ovary cut transversely—10 a berry nearly mature cut transversely.

(759) Gardenia latifolia. (Ait:) arboreous, unarmed: leaves opposite or in threes, very shortly petioled, oval or obovate, glabrous, with a small hairy gland in the axils of the nerves on the under side: flowers terminal, solitary, very shortly pedicelled (pedicels scarcely a line long): limb of the calyx campanulate, irregularly divided, hirsute on the inside: corolla hypocrateri-form; tube long, hirsute on the outside; limb about 9-cleft, the divisions obliquely obovate, about half the length of the tube, hirsute towards the one margin on the outside: stigma clavate, thick and fleshy, bipartite, segments bifid: berry even, nearly globose, crowned with the whole limb of the calyx; nut thin, brittle and bony, with 4 parietal receptacles.—W. and A. Prod. 1 p. 395.

Found in thickets and subalpine jungles in the Carnatic especially near the coast but not common so far as I have had an opportunity of observing.

760 Hydrophylax maritima (Linn.:) *Linn. f. suppl.* 126; *DC. prod.* 4. *p.* 576; *Spr. syst.* 1. *p.* 410; *Roxb. Cor.* 3. *t.* 233; *fl. Ind.* 1. *p.* 373; (*ed. Wall.*) 1. *p.* 380: *Wall.! L. n.* 6205; *Wight! cat. n.* 1369.—Sarrissus anceps, *Gærtn. fr.* 1. *p.* 118. *t.* 25.—W. and A. Prod. 1 p. 441.

Salt sandy soils near the sea beach in which it spreads extensively binding the sand.

761. Microtropis garcinifolia. (Wall. *Euonymus garcini folia* Roxb. *Cassine discolor*, Wall.) subarborious leaves lanceolar entire acuminated : peduncles axillary or supaaxillary short : corymbs small few-flowered capsule—2 valved splitting from the base. *Roxb. Fl. Ind.* 1. p. 626.

Sylhet, (Roxb. Wall.)

Of this genus little seems to be as yet known, Dr. Wallich, with whom it originated, published the names of 3 species in his list of Indian plants, but without either generic or specific characters. Professor Meisner from imperfect specimens of two of these constructed a generic character so nearly correct that I was enabled from it to refer two or three new species, natives of the Neilgherries, to the genus. Dr. Arnott. (Annals of Nat. Hist. 3 p. 151,) from more perfect specimens of the species here figured,drew up a generic character which, with a few slight modifications, will include all my new species, though differing a little in the capsule. I hope in a subsequent part to be enabled to give a more perfect character taken from the examination of several species.

762. Ludwigia prostrata. (Roxb.) lower branches creeping : leaves alternate, petioled lanceolar flowers axillary sessile : capsule filiform with one row of seeds in each cell attached immediately to the axis. *Roxb. Fl. Ind.* 1 p. 520.

Native of Pegue.

763. Maba buxifolia (Juss.) *Ferriola buxifolia Roxb.* leaves obovate glabrous in the adult state : calyx downy : flowers solitary or aggregate, hexandrous, filaments all simple. *G. Don. Diction.* 4 p. 43.

A frequent shrub in low jungles very abundant in the Circars, but also extending to the Southern parts of the Peninsula.

764-5. Myrica integrifolia (Roxb.) leaves lanceolar entire smooth; scales of the female aments reniform cordate one or two flowered : drupe oval granulated. *Roxb. Fl. Ind. 3 p.* 765.

Sylhet, grows to the size of a large bush. Flowers December and January, fruit ripen in May. The fruit is pickled by the natives and used as a condiment ; in its raw state though inviting to the eye is too sour to be relished. Drupe oval the size of a prune, nut oblong thick and very hard, a little flattened, the two edges rather extended and somewhat sharp, densely clothed with an immense quantity of fine white hair in pencilliform tufts. The pulp consists of innumerable closely impaced but distinct clavate succulent yellow bodies." *Roxb.*

764. A branch of the male plant with a detached flower magnified.

765. Female plant with analysis of the ovary and fruit.

766. Antidesma lanceolaria (Wall. *Stilago* Roxb.) shrubby smooth: leaves lanceolar: stipules ensiform: spikes terminal filiform : male flowers diandrous. *Roxb. Fl. Ind.* 3 p. 760.

Native of Chittagong.

767-8. Antidesma tomentosa (Wall. *Stilago* Roxb.) shrubby tomentose, leaves acuminate ; stipules subulate : spikes cylindric, amentaceous, male flowers triandrous. (*Roxb. Fl. Ind.* 3 p. 757.)

A Native of Sylhet, flowers May and June, ripens its fruit in September.

The genus *Stilago* not being considered sufficiently distinct from *Antidesma* has been reduced to the latter as being the older name.

767. Flowering branch of the female plant with analysis.

768. Male plant with detached flowers, seen from above and below.

769 Quercus castanicarpa (Roxb.) leaves oblong entire smooth : nuts ovate, a little hairy, completely hid in the evalvular capsule-like cup which is completely armed with ramous sharp spines. (*Roxb. Fl. Ind.* 3 p. 640.)

Chittagong, a large tree, flowers July and August, and the small acorns ripen during the cool season.

770. Quercus armata (Roxb.) leaves lanceolate acuminate entire smooth : cup an entire evalvular capsule armed with many compound thorns, hiding completely the subovate acorn (*Roxb. Fl. Ind.* 3 p. 640.)

Mountainous countries East of Bengal, a large timber tree.

771. Aristolochia acuminata (Lam.) perennial twining smooth : leaves cordate, rather acuminate : racemes axillary, simple or compound, drooping (*Roxb. Fl. Ind.* 3 p. 489.)

Eastern parts of Bengal, Roxb.—Lower slopes on the eastern face of the Neilgherries, R. W.—Mauritius, Lam. Flowering season on the Neilgherries June, July and August.

1 Flowering plant—2 dissected flower—3 a capsule as seen hanging from the stem—4 capsule cut vertically —5 cut transversely.

AROIDEÆ.

Obs. The natural family *Aroideæ* has of late years undergone much careful revision, by several most eminent Botanists, in the course of which it has been found necessary to break down the old Linnean genera and construct numerous new ones. The old genus Arum, so copiously illustrated in this Part, affords a striking example of the correctness of this statement. Of 22 species described by Roxburgh, in his Flora Indica, under that generic name, not one is left. I have notwithstanding preferred publishing most of his figures under his own name, quoting the new ones as synonyms, not because I disapprove of the innovations, for I have not yet had an opportunity of determining for myself by examination of the plants the necessity that exists for such numerous changes, but because I think it desirable to show the progress he made in elucidating this difficult and, at the time he wrote, imperfectly understood family.

When naming the plates I had not access to any systematic description of the order, and now find I have fallen into several errors in writing the synonyms on them. Since then, indeed while these sheets were passing through the press, I received Kunth's Enumeratio Plantarum, Vol. 3d ,embracing among others this family, with the aid of which, I have been enabled, in the letter press, to correct the errors of the plates.

772. Criptocoryne retrospiralis (Fischer—*Ambrosinia* Roxb.) leaves linear lanceolar : spathe first twisted to the right and there closed ; then to the left and there open, capsule 5-celled, 5-valved. (*Roxb. Fl. Ind.* 3 p. 492.)

Native of the Northern parts of Bengal in mud soil.

773. Criptocoryne spiralis (Fischer—*Ambrosinia*—Roxb.) leaves petioled linear lanceolate : spathe sessile much shorter than the leaves twisted : ovary 5-celled. (*Roxb. Fl. Ind.* 3 p. 492.)

Native of marshy banks of streams and tanks. I have found this or an allied species abundant in such places in Tanjore and near the old fort of Palamcottah on the bank of an irrigation canal.

774. CRYPTOCORYNE? UNILOCULARIS (*Ambrosinia* Roxb.) stemless; leaves linear lanceolate: spathe as long as the leaves twisted: capsule one-celled.—*Roxb. Fl. Ind.* 3 p. 493.

A native of Coromandel in marshy places where it is partly immersed in sweet water. This species I am not aware of ever having met with. The one-celled ovary seems to make it a very doubtful member of this genius.

775. CRYPTOCORYNE CILIATA (Fischer—*Ambrosinia* Roxb.) leaves long petioled lanceolar: spathe shorter than the leaves with a tabular case and expanding ciliate apex: capsule six-celled.—*Roxb.Fl.Ind.* 3 p. 494.

A native of Bengal in marshy grounds on the banks of streams and tanks.

776. POTHOS SCANDENS (Lin. Roxb.) epiphytic: petioles as broad as the lanceolar leaves; spadix globular reflexed.—*Roxb. Fl. Ind.* 1 p. 430.

A very widely distributed plant, always found climbing on trees, to the bark of which it adheres like ivy by its slender fibrous roots entering the crevices of the bark. Roxburgh defines it "Parasitic" which in the modern more limited sense of the term is incorrect, I have therefore substituted Epiphytic or growing on trees for his word.

777. LASIA HETEROPHYLLA (Endl. *Pothos hetephylla* Roxb.) caulescent, creeping, armed: leaves from cordate, segittate to pinnattid: spathe erect spiral many times longer than the short cylindric spadix: florets tetrapulatous tetrandrous.—*Roxb. Fl. Ind.* 1. 437.

Native of Bengal. This and *Pothos Lasia* R. have been separated from *Pothos* as a distinct genus on account of their solitary pendulous ovules. *Pothos* having several erect ones.

778. SCINDAPSUS OFFICINALES (Schott. *Pothos* Roxb.) perennial epiphytic stems rooting: leaves oblong cordate entire: flowers terminal; florets naked octandrous: berries one-seeded.—*Roxb. Fl. Ind.* 1 p. 431.

Native of Bengal. In some parts of the Midnapore district it is cultivated for its fruit which,cut in transverse slices and dried, forms an article of the Hindoo materia medica.

779. SCINDAPSUS DECURSIVUS (Schott. *Pothos* Roxb.) perennial, rooting on trees, smooth: leaves subdicursively pinnate; segments falcate cuspidate: flowers lateral or axillary long peduncled.—*Roxb.Fl.Ind.*1 p.436.

Native of Sylhet. A very large powerful species blossoms during the hot season.

780. SCINDAPSUS PEEPLA (Schott. *Pothos* Roxb.) perennial subparasitic rooting on trees: leaves long petioled oblong acuminate: flowers subterminal florets apetalous tetrandrous.—*Roxb. Fl. Ind.* 1 p. 433.

Sylhet, flowers April and May.

781. SCINDAPSUS PERTUSUS (Schott. *Pothos* Roxb.) scandent subparaitic rooting on trees: leaves cordate perforated on one side and pinnalifid on the other: anthers two-lobed. *Roxb. Fl. Ind.* 1 p. 455.

"A native of the mountainous parts of Coromandel" Roxb. I have only so far as I can recollect, met with this species at Courtallum at the place called "FiveFalls."

782. ARUM CAMPANULATUM (Roxb. *Amorphophallus* Decaisne) stemless, leaves decompound: flowers sessile with respect to the surface of the ground and appearing when the plant is destitute of leaves: spathe the length of the spadix campanulate, with curled margins: no nectary: club broad ovate lobate: anthers 2-celled. *Roxb. Fl. Ind.* 3 p. 509.

An extensively distributed plant much cultivated in Coromandel by the natives for the sake of the roots which are used as yams or potatoes. When in flower the fetor it exhales is most overpowering and so perfectly resembles that of Carion as to induce flies to cover the club of the spadix with their eggs. From a number of drawings sent me I selected two, this one to show the plant, and the other 782 to show a most gigantic flower, but to which I find no reference in Roxburgh's work.

783. ARUM BULBIFERUM(Roxb. *Pythonium*. Schott. *Amorphophalus*, Blum.) root tuberous stemless: leaves decompound bulb bearing: spathe cauled rather longer than the cylindric spadix no nectaries. *Roxb. Fl. Ind.* 3.

A native of Bengal plentiful in woods in the vicinity of Calcutta, blossoms in May.

784. ARUM CUSPIDATUM (Roxb. *Arisæma* Martius) stemless: leaves ternate; leaflets equal lanceolate cuspidate: scapes as long as the petioles: spathe longer than the subulate pointed spadix: anthers from four to five in a peltate circular crown on each filament. *Roxb. Fl. Ind.* 3 p. 506. *Aris Roxburghii.* Kunth.

Native of Pulo-Penang. Roxburgh when he described this species had only some male flowers.

785. ARUM CAMPANALATUM (Roxb. *Amorphophallus* Decaisne) stemless leaves decompound flowers sessile with respect to the surface of the ground and appearing when the plant is destitute of leaves, spathe the length of the spadix campanulate with curled margins no nectary: club broad ovate lobate: anthers 2-celled. *Roxb. Fl. Ind.* 3 p. 509.

An extensively distributed plant much cultivated in Coromandel by the natives for the sake of the roots which are used as yams or potatoes. When in flower the fetor it exhales is most overpowering and so perfectly resembles that of Carion as to induce flies to cover the club of the spadix with their eggs. From a number of drawings sent me I selected two, one 785 to show the plant, and this one to show a most gigantic flower but to which I find no reference in Roxburgh's work.

786. ARUM COLOCASSIA (Lin. Roxb. *Colocassia antiquorum* Schott.) 2. ARUM NYMPHÆIFOLIUM (Roxb. *Caladium Ventinat.*) Two plants are represented in this plate, and according to some authors they belong to different genera. Roxburgh however doubts whether they are not mere varieties of one species.

1. COLOCASSIA ANTIQUORUM (Schott.)! stemless leaves peltate ovate repand semibifid at the base: scape shorter than the petiols: spathe much longer than the spadix cylinderic erect: club subcylindrical length of the antheriferous part of the receptacle, anthors many celled. *Roxb. Fl. Ind.* 3 p. 494.

A native of wet marshy grounds: is very abundant in the Tanjore district on the banks of irrigation canals. The leaves and foot stalks of some of the varieties of this plant are much eaten by the natives.

2. COLOCASIA NYMPÆEFOLIA (Kunth *Caladium vent.*) stemless: leaves peltate, ovate, repand, semibifid at the base: scape shorter than the petioles, spathe much longer than the spadix subcylindrical erect: club slender acute, scarcely half the length of the antheriferous part of the receptacle: anthers many celled. *Roxb. Fl. Ind.* 3 p. 495.

This is common in Malabar and like the former forms part of the food of the natives.

787. Arum cuculatum (Lour. Roxb.—*Caladium* Zour *Colocassia* Schott.) caulescent ramous: leaves subpeltate exactly cordate acute, with the lobes exquisitely rounded and convex or concave, from their margins being contracted: scape half the length of the petioles: spadix cylindrical nearly as long as the cymbiform spathe. *Roxb. Fl. Ind* 3 p. 501.

Native of Bengal—found about Calcutta but rare.

788. Arum curvatum (Roxb.—*Arisæma* Mart.) stemless leaves pedate, leaflets from 10 to 12 lanceolar, spathe vaulted half the length of the curved spadix: no nuturial filaments: anthers 3-lobed. *Roxb. Fl. Ind.* 3 p. 506.

Native of Nepaul blossoms in May.

789. Arum fornicatum. (Roxb. *Colocasia.* Ray. Schott.) caulescent: leaves peltate, narrow cordate with the lobes angle rounded: spadix clavate, upper half of the spathe vaulted equaling the spadix berries with from one to three seeds. *Roxb. Fl. Ind.* 3 p. 501.

Native of Bengal and Chittagong, blossoms during the rainy season.

790. Arum divaricatum. (Roxb. *Typhonium* Schott.) stemless leaves cordate acuminate spathe longer than the subulate spadix with a slender drooping spiral apex nectarial filaments simple and subulate, encurved. *Roxb. Fl. Ind.* 3 p. 503.

Native of Malabar—Roxburgh also received living plants of it from China.

791. Arum flagelliforme. (Roxb. *Typhonium* Schott.) stemless: leaves sagittate lobes spreading: spathe and spadix equal whip-shape nectarial scales coloured; anthers two-lobed two-celled. *Roxb. Fl. Ind.* 3 p. 502.

A native of Bengal found in damp shaded ground.

792. Arum fornicatum (see above No. 789) This figure should have been numbered 790—The drawing seems to have been made for the purpose of showing a peculiarity of this species unusual in the genus namely, its viviporous property, the buds on its stem becoming developed and forming new plants there, deriving their nourishment through the parent plant. We have here a good figure of nearly mature fruit.

793. Arum gracile (Roxb. *Typhonium* ? Schott. *Arisæma* Kunth) stemless leaves deeply three parted or subternate, lobes acute the middle one oblong, lateral ones semihastate: spathe flagelliform the length of the flagelliform spadix: nectarial scales simple and revolute. *Roxb. Fl. Ind.* 3 p. 505.

794. Arum indicum (Roxb. *Colocasia* Ray Schott.) cauliscent erect, leaves cordate base bifid, lobes approximate and rounded: spadix cylindrical equalling the linear boat-shaped spathe: club cylindric longer than the rest of the spadix. *Roxb. Fl. Ind.* 3 p. 498.

A native of various parts of Southern Asia, cultivated in Bengal for its esculent stems and small pendulous tubers of its root, which are eaten by people of all ranks in their curries.

795. Arum margaritiferum (Roxb. *Amorphophallus* Kunth.) herbaceous stemless: leaves trifid with entire narrow lanceolate pinnatifid segments: spathe campanulate equaling the obtuse spadix; nectaries like large pearls. *Roxb. Fl. Ind.* 3 p. 512.

Native of Hindostan, flowers May and June. The globular bodies seen on the spadix are not fruit but abortive or modified pistilla or in Roxburgh's language "Nectaries." The ovaries occupy the lower portion of the spadix the stamens the upper—the pearl-like bodies the middle. Roxburgh's description of the leaves does not convey to the mind a clear idea of their form. Generally they may be designated bipinnatifid; that is they are first divided into 3 primary lobes each of which is again cut into several narrow lancolate segments with entire margins. They may then be briefly and clearly defined almost in Roxburgh's own words slightly altered in the arrangement thus "leaves trifid, lobes pinnatifidly cleft into several narrow lanceolate segments, entire on the margin."

796. Arum montanum (Roxb. *Colocasia* Ray, Schott, Kunth) stemless, root a subcylindrical tuber: leaves cordate repand polished: spadix nearly as long as the cuculate coloured spathe: anthers many-celled *Roxb. Fl. Ind.* 3 p. 497.

A native of the mountainous parts of the Northern Circars where the root is employed to poison tigers!

797. Arum odorum. (Roxb. *Colocasia* Ray, Schott) caulescent, leaves cordate, base bifid, lobes rounded: flowers in axillary pairs: spadix equalling the cymbiform spathe: club one-third the length of the whole spadix; berries one-seeded. *Roxb. Fl. Ind.* 3 p. 499.

Native of Pegue, flowers during the cool season ripening its fruit in March and April. The flowers possess a considerable degree of agreeable fragrance, a very unusual quality in the family.

798. Arum viviperum (Roxb. *Remusatia* Schott.) stemless leaves peltate cordate acuminate: root flagelliferous and these runners bearing scaly viviferous bulbs in clusters. *Roxb. Fl. Ind.* 3 p. 496.

A native of Nepaul—Malabar—Courtallum, very abundant at the latter station, under the shade of dense woods. There I found it in perfection August and September.

799. Calla calyptrata. (Roxb. *Homalonema calyptratum* Kunth.) stemless leaves oblong cordate: spathe circumcised, the upper conical portion falling when early in blossom: spadix the upper half clavate and covered with stamena the lower half cylindric and female. *Roxb. Fl. Ind.* 3 p. 514.

Native of Amboyna.

800. Arum sessiliflorum. (Roxb. *Sauromatum* Kunth) stemless: leaves pedate leaflets about nine broad lanceolate entire: flowers sessile appearing when the plant is destitute of foliage spathe revolute twice the length of the long tapering, erect, acute, spadix, nectarial, filaments clavate: anthers 2 lobed, berries from one to two seeded. *Roxb. Fl. Ind.* 3, *p.* 507.

A native of the country around Cawnpore, blossoms during the dry hot season.

801. Arum orixense. (Roxb. *Typhonium* Schott.) stemless: leaves three lobed: flowers subsessile: spathe ample, erect, longer than the spadix nectarial, filaments long and often ramous. *Roxb. Fl. Ind.* 3 p. 503.

A native of shady mango groves near Samulcottah where the soil is pretty rich and fertile; flowering time the beginning of the rains. (Roxb.) I do not recollect ever to have met with it in the station indicated. This species is quoted by Kunth as identical with *Typhonium trilobatum* (No. 803) a glance at the figures will show how erroneously. The roots are exceedingly acrid and are applied as cataplasms to discuss schirrus tumorus.

802. Arum sylvaticum (Roxb. *Amorphophallus* Kunth Pythonium Schott.) leaves super-decompound; leaflets lanceolate: spadix straight, two or three times longer than the short gibbous campanulate spathe: anthers 2 celled. *Roxb. Fl. Ind.* 3 p. 511.

Native of the Circar mountains, flowering time the wet season.

803. Arum trilobatum (Lin. Roxb. *Typhonium* Schott.) stemless leaves three lobed: flowers subsessile: spathe ample with its apex spiral and resting on the earth, nectarial filaments short simple and removed. *Roxb. Fl. Ind.* 3 p. 506.

Native of the Moluccas whence it was introduced into the Botanic Garden.

804. Calla picta (Roxb. *Aglaonema* Kunth) caulescent leaves shortpetioled, ovate, oblong entire clouded: flowers axillary solitary peduncled, spathe, gibbous, acuminate, shorter than the obtuse clavate spadix. *Roxb. Fl. Ind.* 3, p. 516.

Native of the Island of Sumatra.

805. Calla aromatica. (Roxb. *Homalonema* Schott.) caulescent leaves subsagittate, cordate, acuminate; lobes rounded and divariate: spadix cylindric, obtuse, equalling the spathe, above male, below female with abortive stamena intermixed: anthers many celled. *Roxb. Fl. Ind.* 3, p. 513.

A native of Chittagong: when cut it diffuses a pleasant aromatic scent. The natives hold the medical virtues of the root in high estimation.

806. Calla oblongefolia. (Roxb. *Aglaonema* Kunth) caulescent: leaves erect, oblong: spathe boat-shaped, acuminate spadix cylindrical shorter than the spathe the lower part bearing a few scattered pistils above closely covered with 4 celled anthers. *Roxb. Fl. Ind.* 1, p. 516.

A native of the Moluccas, thence introduced into the Botanic Garden of Calcutta.

807. Calla rubescens (Roxb. *Homalonem* Kunth) leaves cordate, base bifid, spathe contracted, acute, equalling the spadix lower third of the spadix covered with germs and clavate corpuscles intermixed, upper two-thirds covered with anthers only. *Roxb. Fl. Ind.* 3, p. 515.

808. Calla virosa (Roxb. *Colocasia* Kunth) caulescent, leaves peltate ovate, slightly waved, undivided at the base: spadex one-fourth the length of the subulate spathe with the female flowers at the base, anthers many celled. *Roxb. Fl. Ind.* 3, p. 517.

The station of this plant is not mentioned. It is called in Hindoo *Bish Ruchoo*, Bish meaning poison. Roxburgh derived his specific name from that word.

809. Smilax ovalifolia. (Roxb.) stem cylindric ramed: leaves unarmed, oval, smooth from five to seven nerved, petiols, tendrel bearing, umbels compound.

Native of the Circars in hedges and forests.

810. Dioscorea alata. (Linn.) tubers oblong, white, stems annual twining, four winged: leaves opposite, deep cordate from five to seven nerved. *Roxb. Fl. Ind.* 3, p. 797.

This plant is universally cultivated in the Carnatic being that which produces the Yam.

811. Dioscorea dæmona. (Roxb. Fl. Ind. *D. amœna* Roxb. *Mss.*) root tuberous, biennial, stems annual, twining, armed, leaves ternate, leaflets obovate, cumate, three to five nerved. *Roxb. Fl. Ind.* 3, p. 805.

Native of Bengal and Moluccas. "The root is dreadfully nauseous, even after it has been boiled." (Roxb.)

812. Dioscorea globosa (Roxb.) tubers roundish white, stems twining six winged, leaves alternate and opposite, sagittate cordate: male spikes compound long pendulous and verticelled, female simple. *Roxb. Fl. Ind.* 3, p. 797.

This species is much cultivated as affording the most esteemed of the Yams amongst Europeans and Natives in India.

813. Dioscorea oppositifolia (Linn.) herbaceous smooth, leaves opposite from cordate to ovate—lanceolate, acute, from three to seven nerved, male flowers panicled, the female ones spiked. *Roxb. Fl. Ind.* 3, p. 804.

A native of Coromandel, and of frequent occurrence in sub-alpine jungles.

814. Dioscorea pentaphylla. (Linn. Roxb.) tubers oblong, stems herbaceous, twining, prickly: leaves digitate downy: male flowers panicled, female onces spiked. *Roxb. Fl. Ind.* 3, p. 806.

A sufficiently common species in jungles on low hills, &c. but never, so far as I have seen, cultivated which is the more remarkable as I have always found the Natives dig the tubers, whenever they had an opportunity, to dress and eat them.

815. Dioscorea tomentosa. (Koenig.) herbaceous, tubers irregularly oblong: stems twining downy, slightly armed: leaves alternate, ternate, downy, male racimes axellary compound. *Roxb. Fl. Ind.* 3, p. 805.

A widely distributed species, extending from the Circars to Cape Comorin and to be found on almost every considerable hill that is covered with natural jungle. Unless my memory deceives me, I have seen specimens in Dr. Royle's collection from even the high latitude of Seharenpore and the foot of the Himalayas.

EXPLANATION OF PLATES.

VOL. III.—PART II.

816. Mappa moluccana (Spreng—*Ricinus mappa* Lin. *Acalypha mappa* Willd.) dioicous; leaves peltate cordate entire acute : spikes panicled : (Roxb.) panicles of male flowers axillary: bracteas alternate, sessile, cordate, concave, dentate, ciliate, many flowered : flowers very small; calyx 2 parted reflexed stamens about 8, filaments longer than the calyx. *Roxb. Fl. Ind.* 3 *p.* 690.

Amboyna and Eastern Islands.

Roxburgh's description of the flowers of his plant is deficient by omitting to notice the stamens and anthers. On this account I am unable to identify specimens from Moulmain of apparently the same plant, (tho' differing in some respects from his figure) except that in mine the calyx is *three* not *two* parted : in it also the anthers are peltate, deeply divided into 4 globose cells, not mentioned here but described under his *Osyris peltata.*

817. Mappa ? peltata (R. W. *Osyris peltata* Roxb. *Macaranga?* Pet. Thour.) Arborious, leaves peltate ovate cordate entire (Roxb.) male panicles axillary : bracteas many flowered : flowers exceedingly minute; calyx three parted; stamens three; anthers peltate four celled; cells covered with lids, (Roxb.) female, calyx 3 parted; ovary superior covered with yellow glutinous grains usually (by abortion ?) one sometimes two celled; style short, lateral, springing from near the base of the ovary, ending in one, sometimes two, long reflexed subulate stigmas; ovule attached near the base of the ovary opposite the insertion of the style, ascending : capsule 2 valved, fleshy, about the size of a pea, dehissing vertically; seed globose ascending : integuments three—exterior smooth shining blackish; the middle one nuciform black, thick, hard and rough on the outside; between it and the exterior tunic is a quantity of soft whitish pulp; the inner one pure white and very thin : embryo obliquely inverse, enclosed in a copious albumen; cotyledons foliaceous cordate 3 nerved plumula minute; radicle pointing obliquely upwards towards the apex of the seed.

Circars Roxb., Malabar and Eastern, slopes of Neilgherries.

This extended character is taken partly from my own dissections, but principally from Roxburgh's description and is given with a view to showing that the *Mappa* of A. de Jussieu and the *Osyris* of Roxburgh are generically congeners even though in this species the stamens are usually only 3 and the ovaries solitary, and further it seems probable that they must all be referred to Du Petit Thouars' genus *Macaranga* between which and *Mappa* the plant now under consideration seems, to me, to form the connecting link; with however the weighty objections that in it the ovule and seed are said to be pendulous from the apex of the cell and the calyx to be 4 parted while in this the one is ascending and the other 3 cleft. But even with these differences to be explained, I think it probable a careful investigation of all the known species of both genera will show that they can be reconciled and all brought under one generic denomination, the plants themselves being very like. Should this not prove the case then, as surmised by Roxb. in a MS. note on the drawing, this must constitute the type of a new genus and possibly with the other two form the type of a small suborder.

118. Spinacea tetrandra (Roxb. Steven ? Moq. Tand.?) annual erect: leaves variously lobed: flowers hispid, sessile; the male ones tetrandrous, the female calyx 2 parted. *Roxb. Fl. Ind.* 3 *p.* 771.

Hab. much cultivatedin Bengal.

I have quoted the *S. tetrandra* of Steven and Moq. Tandon with doubt, the character of the latter not agreeing well with Roxburgh's figure and description. Steudel (Nomenclator Botan.) is equally in doubt but he seems either not to be aware of the existence of Roxburgh's Flora Indica, or if he is, does not quote it,preferring Wallich's catalogue, as if the one might be safely and satisfactorily substituted for the other. Should this be his opinion he could not have fallen into a greater error; the catalogue being a work not published and of no authority, though well adapted to fulfil the end proposed, that, namely, of supplying a temporary and convenient expedient by which numerous undescribed plants, distributed among Botanists, might be distinguished and thereby, rendered available to the advancement of Botanical Science, pending their more careful determination by numerous eminent Botanists who undertook to aid the author of the catalogue in carrying out the munificent intentions of the Indian Home Government, by the publication of descriptive monographs of the different natural orders intrusted to their care for that purpose. Roxburgh's work on the contrary is one of high authority, the result of years of diligent application and careful study of the numerous species described, as well as figured in his most extensive and unique collection of drawings: to the general accuracy of which representations this work bears most ample testimony. In this point of view Dr. Wallich's catalogue was most useful to all who received his plants, and is in the hands of but few besides. The burthening therefore of our Science, already overwhelmed with synonyms, by the addition of the numerous undefined names of that list, was an error scarcely exceeded by the exclusion of Roxburgh's Flora from the list of authorities quoted in that otherwise invaluable compilation, his names being generally well defined and his plants for the most part elaborately described.

819. Antidesma buneas (Spreng. *Stilago Bunias* Lin Roxb.) Arboreous; leaves alternate entire, lanceolate oblong polished : spikes axillary and terminal : male flowers triandrous with an abortive column in the centre. *Roxb. Fl. Ind.* 3, *p.* 758.

Nepal, Amboyna, Malabar all claim this as a native. It is a tree of quick growth and particularly beautiful when loaded with its numerous bunches of ripe, shining, deep red fruit, which are subacid and palatable.—Roxb.

820. Antidesma paniculata. (Roxb. Willd.) Spikes panicled : leaves round oval villous : stigma stellate drupe round. *Roxb. Fl. Ind.* 3 *p.* 770.

A small tree with light ash coloured bark, flowering in April. Spikes terminal and axillary, panicled; flowers small quinary, male ones with an abortive pistil : ovary embraced by a yellow villous disk, stigmas 5 stellate; drupe round, dark purple when ripe and of a pleasant subacid taste : nut one seeded, embryo inverse enclosed in albumen. Roxb.

821. Antidesma pubescens. (Roxb. Willd.) leaves oblong entire downy: stipules subulate: spikes terminal panicled. *R. Fl. Ind.* 3, *p.* 770.

A small tree flowering about the beginning of the rains. The berries of this species are eaten by the natives.

822. Hedyotis ramosa. (Blume—*Oldenlandia ramosa* Roxb.) diffuse ramous: leaves narrow lanceolate: peduncles axillary with from one to several flowers. *Roxb. Fl. Ind.* 1, *p.* 424.

Native of Pegue apparently very nearly allied to *H. umbellata* which it much resembles in habit and appearance.

823. Dillenia speciosa (Thunberg.): leaves oblong, serrated, glabrous, appearing with the flowers: peduncles solitary, terminal, one flowered: stamens all equal in length: styles and carpels about 20: seeds hairy. *W. & A. Prod. pg.* 5.

Southern provinces and Malabar cultivated about Madras as an ornamental tree.

Several figures of this plant have been published, that of Rheede (Horl. Mal.) is very characteristic, but none of these have analyses of the flower. The accompanying figures will therefore, it is hoped supply to some extent that desideratum. They represent outside and inside views of the flower natural size, a transverse section of the entire ovary showing the 20 carpels or cells, of which it is composed, magnified. A portion of the same more highly magnified showing the two rows of placenta in each cell—and, at that early stage, the 2 ovules each bear—also a vertical section of the ovary, showing the conical form of the receptacle and position of the carpels on its surface. The larger figure represents the fruit in a further advanced stage, at which period one of each pair of ovules has aborted, leaving two not four rows of seed in each cell. Below that is a portion of a mature fruit showing the hairy seed *in situ*, also a seed dissected, showing the minute embryo, at the base of a very copious albumen, immediately under the hilum, and lastly, the embryo itself detached.

Through an oversight the figures in this and several following plates were not numbered which renders the above explanation less explicit than could be wished.

824 }
825 } Cocculus plukenetii. ♂ ♀ (DC.) stem twining, glabrous; young branches pubescent: leaves ovate, mucronate, sometimes slightly cordate at the base, rarely retuse at the apex, glabrous; when young the nerves on the under side, and long petioles hairy: racemes spike-like, longer than the leaves; pedicels short, with a subulate bractea at their base, of males 2-3 together, of females usually solitary: petals cuneate-oblong, emarginate, obtusely 2-toothed near the base; in the male about equal to the stamens, somewhat membranaceous above, below fleshy, and embracing the filaments; in the female fleshy, and internally warted: anther cells approximated: ovaries 3: drupes solitary; nut reniform. *W. & A. Prod.* 1, *p.* 13.

In these two plates I have represented the male plant in flower the female in fruit from specimens collected in the vicinity of Madras. The berries when ripe are pulpy and of a fine purple colour.

826. Canthium leschinaultii. (W. & A.) shrubby, climbing? quite glabrous: old branches armed with short supra-axillary thorns; young shoots long, slender, often unarmed: petioles shortish, twisted: leaves opposite or 3-4 verticillate, oblong, much acuminated, acute at the base: cymes axillary, short-peduncled, few- (3-5-) flowered: calyx minutely 5-toothed: corolla in æstivation acuminated; tube campanulate, with a ring of reflexed hairs internally; segments of the limb 5, linear-lanceolate, acuminated, reflexed: stamens 5; anthers exserted, afterwards reflexed: style thickened about the middle and hairy downwards: stigma mitriform, bifid to about the middle: drupe obcordate. *W. & A. Prod. pg.* 426.

The specimen here figured was obtained at Courtallum but the species is not confined to that station. I have repeatedly met with it in subalpine jungles.

827. Ixora lanceolaria. (Colebrooke.) shrubby: branches slender, drooping, glabrous: leaves short-petioled, spreading, approximate, narrow or oblong-lanceolate, acuminated; upper surface dull, glaucous, glabrous; under pale, glabrous or pubescent; corymbs small, few-flowered, sessile, trichotomous, open: flowers (white) lax: calyx-segments linear-oblong, much longer than the tube, connivant in fruit: tube of the corolla (about three-squarters of an inch long) slender; lobes spreading, linear-oblong, obtuse, a little falcate, slightly pubescent: ovary crowned with a series of fleshy sphacelate bristles round the inside of the limb of the calyx: filaments shortly exserted; anthers long-linear, the base bifid and ending in 2 subulate spine-like processes; style much exserted; divisions of the stigma long-linear, spreading: berry somewhat didymous.—*a*; leaves narrow-lanceolate, much acuminated, quite glabrous. *W. & A. Prod. pg.* 420.

The specimen figured was obtained from Courtallum, so far as I have observed this is a rare plant.

828. Psychotria lævigata. (W. & A.) shrubby, erect, glabrous: leaves very shortly petioled, oblong-lanceolate, acuminated, cuneate or tapering at the base: stipules lanceolate, acuminated, twice the length of the petioles: corymb terminal, longish-peduncled; primary rays and those on the central primary one in fives, subtended by four bracteas; the other rays in threes and subtended by two bracteas; bracteas all lanceolate-acuminated, connate at the base: flowers aggragated at the extremeties of the partial rays, intermixed with broad lanceolate acuminated bracteas: calyx-limb 5-cleft, lobes ovate, slightly ciliated: tube of the corolla much bearded in the throat, scarcely longer than the segments of the calyx: filaments longish, exserted; anthers oblong: stigma short and thick, bilamellate, scarcely exserted: berry ovate, with four deep furrows: albumen flat on the inner side, with two deep dorsal furrows and a broad obtuse rib between them. *W. & A. Prod. pg.* 433.

I have to regret the want of more perfect analysis for this figure owing to the plants not being in fruit when the specimens were gathered at Courtallum in July 1835.

829. Vernonia conyzoides. (DC. Prod. 5, W. & A. Contributions) stems herbaceous erect striated, shortly pubescent; leaves ovate or oblong lanceolate acuminated, narrowing into a short petiol, serrated, glabrous above, beneath villously pubescent: corymbs compound many-headed naked: scales of the involucrum linear lanceolate acuminate, villously pubescent. *DC. in Wight's contributions, pg.* 5.

Neilgherries frequent but not limited to that station.

830. Gymnema elegans. (W. & A. Contributions) twining, branches slender glabrous, the older ones warty: leaves cordate—ovate or oval, acuminated, undulated on the margin: umbels short peduncled, peduncles and pedicles afterwards elongating: flowers small, (white) throat of the corolla naked, tube furnished within with hairy lines: stigma obtuse longer than the stamens: follicles often, by abortion, solitary, acuminated: seed margined. *Wight's Contributions, pg.* 46.

The exact station whence the specimens figured were obtained is unknown to me the drawing having been made when I was in England which will in part account for the absence of fruit. The follicles are slender, about 3 inches long and only three or four lines in thickness.

831. Cryptolepis grandiflora. (R. W.) leaves from oval to obovate spathulate: cymes axillary diffuse, longer than the leaves: corolla funnel-shaped, throat furnished with 5 inflexed capitate processes: anthers acuminate; 5 hypogynous emarginate scales alternate with the stamens; follicles divaricated.

Balaghaut mountains near Naggary. A fine species abundantly distinct from *C. Buchananni.*

While examining the specimen figured I found some grains of pollen producing their tubes, these I have endeavoured to represent. The large tube on the right hand side is one of them more highly magnified to show little opaque bodies passing along.

832. Cryptostegia grandiflora. (R. Br. *Nerium grandiflorum.* Roxb.)

This is a large twining shrub now common in the hedge rows about Madras and not unfrequently met with as an ornamental shrub in gardens. It abounds with milky juice from which, when exposed for a short time to the sun, a quantity of pure caoutchouc separates: flowers redish white especially towards the bottom of the tube.

833. Aneseia calysina. (Choisy. *Convolvulus calysinus.* Roxb.) stem pilose twining: leaves oblong cordate acuminated very acute, glabrous, petiolate: peduncles hardly the length of the petioles 1-3 flowered: sepals with villous edges, exterior ones sagittately cordate: corolla tubular. *G. Don. gard. dict.* 4, *pg.* 295.

Roxburgh assigns the interior parts of India as the station of this species. The specimen here figured is of peninsular origin the exact station I do not at present recollect but think Negapatam.

834. Batatas pentaphylla. (Ch. *Convolvulus pentaphyllus* Lin. *C. hirsutus* Roxb.) hairy: leaves quinate; leaflets petiolate, elleptic lanceolate or oblong, entire, acuminated: peduncles longer than the leaves, loose, dichotomous: corolla white or cream coloured. *Don. gard. dict.* 4, *pg.* 261.

Roxburgh assigns the same station as above "interior parts of Hindostan" for this species I have found it repeatedly near the Coast. The specimen here figured grew at Negapatam on the sea coast.

835. Hewittia bicolor. (W. & A. *Shuteria Choisy,* not of W. & A. Prod. *Convolvulus bicolor,* Roxb.)

This, the only species of the genus is common enough near the Coast. It is distinguished generally by its one celled 4 seeded capsules and the flattened ovate spreading lobes of the stigma. Roxburgh however says, "capsules hairy *four celled;* seeds black, one in each cell" which I think must be a mistake on his part. My draughtsman has clearly represented the capsule 1 celled and four seeded which corresponds with Choisy's character.

836. Ipomœa pestigridis. (Lin.) leaves palmate 5 rarely 7 lobed, lobes ovate entire, clothed with silky hairs: peduncles many flowered equal in length to the leaves: flowers aggregate; bracteas six or eight surrounding the head of flowers and longer than it. *Don. gard. dict.* 4, *pg.* 280.

A most common plant in sandy soils extending all over India.

837. Ipomœa pilosa. (Choisy.) hairy: leaves broadly cordate entire or slightly 3 lobed, clothed with white wool beneath: peduncles exceeding the petioles, cymosely many flowered; sepals linear hairy. *Don. gard. dict. l. c.*

A subalpine plant found twining over bushes in jungles near the bottom of hills. The leaves are white and powdery beneath, the flowers a beautiful rose pink colour and the whole plant covered with long soft hairs.

838. Ipomœa sepiaria. (Konig. Roxb.) stem alternately glabrous and villous from loose hairs: leaves cordate oblong: peduncles many flowered: sepals oblong ovate acute or obtuse: corolla showy tubularly funnel shaped. *Don. gard dict.* 4, *pg.* 273.

Very common twining in hedges, a showy plant deserving of a place in the flower garden. The peduncles enlarge toward the apex and sometimes become so succulent as to resemble fruit.

839. Argyreia cymosa (Choisy. *Rivea* R. W. *Letsomia cymosa* Roxb.) clothed with pruinose down: leaves roundish cordate or reniform-cordate obtuse, terminated by a short mucro, glabrous on both sides, or clothed with pruinose down: peduncles equal or occasionally exceeding the leaves; leafy at top and cymosely many flowered; bracteas ovate roundish, obtuse, plicately recurved: outer sepals like the bracteas, inner ones ovate linear: corolla showy. *Don. gard. dict.* 4, *pg.* 257.

A plant of not uncommon occurrence twining among hedges, which during the flowering season it greatly enlivens with its numerous large pale pink flowers.

When naming this plate I had not specimens at hand to dissect the ovary and therefore adopted Choisy's name in opposition to the evidence furnished by the drawing which shows a 4 celled ovary, not a 2 celled one, which constitutes the essential character of the genus. I have since ascertained that the draftsman is right and that it is in fact a species of *Rivea*, the character of which is to have a 4 celled ovary with a single seed in each cell. With this character taken from structure M. Choisy, has, in the case of *Argyreia*, unhappily, combined one derived from the form of the corolla of easier observation, and on which he seems generally to have relied, though unfortunately of no value and such as a very slight degree of reflection must have satisfied him ought not to be associated with those derived from the structure of the ovary, until confirmed by most careful examination; there being no necessary connection between the shape of the corolla and number of cells of the ovary. As the matter now stands it seems not improbable that *Loureiro's* old genus will be swept away to give place to one of yesterday, merely through an error of the more recent expositor. For myself I have not yet met with a single instance of a convolvulaceous plant with baccate fruit and a 2 celled ovary: and now, I trust not unreasonably, feel sceptical of the existence of such a union, though at the same time I see no reason why it should not exist: but being of comparatively rare occurrence I would urge the propriety of reverting to Roxburgh's idea of making the baccate fruit the essential character of the genus reuniting *Rivea* and *Argyreia*, of course adopting the older name, and dividing the genus into sections and subsections according to its 2 or 4 celled ovary and form of the corolla. As it now stands the genus *Argyreia*, though so truly Indian, has scarcely a true Indian species, if in fact, as now defined, one genuine species can be found—that is, a Convolvulacea combining the three essential requisites of—baccate fruit, a 2 celled ovary, and campanulate corolla.

840. EXACUM WIGHTIANUM. (Arnott) stems very ramous and with the branches broadly winged: leaves oblong lanceolate acuminated subsessile: corymbs leafy; corolla five clift, laciniœ oval acute or acuminated: fruitiferous pedicels recurved: capsule globosely ellipsoidal. *Arnott annals Nat. Hist.* 3, *p.* 89.

This seems to be a rare plant. I have not myself met with it the accompanying drawing having been prepared during my absence from India.

841. SOLANUM (NYCTERIUM) WIGHTII (Nees) herbaceous, armed with aciculate prickles, and clothed with fasicled hairs: leaves cordate, ovate or elliptic, repando-sinuate: fruitiferous peduncles elongated reflexed: the three inferior anthers larger: fruit covered by the persistent calyx. *Nees in Act. Acad. Cœs. Nat. Cur. Vol.* 18.

A rare plant found sparingly on the Neilgherries near Coonoor in jungle, the specimen figured was not however from that station.

842. WAHLENBERGIA PEROTIFOLIA. (W. & A. DC. *Dentilla* Willd. Roxb.) stem erect, flexuose, pilose, angled ramous: leaves alternate, sessile, lanceolate, acuminated attenuated at the base, glabrous; the margin somewhat undulately-crisp, denticulate: peduncles terminal pubescent naked: tube of the calyx hairy; with shorter, linear acuminate, glabrous lobes: capsule globose. *DC. Prod.* 7, *p.* 434.

Found not uncommon in cultivated sandy soils near the Coast. Leaves finely ciliate, capsule 3 celled.

843 } EMBRYOPTERIS GLUTENIFERA.—Male and female
844 } (Roxb. *Diospyras glutinosa* Konig. in Roxb.) leaves linear lanceolate glabrous male peduncles from three to four flowered with about 20 filaments and forty anthers: fertile flowers solitary, with from one to four sterile stamens styles four. *Roxb. Fl. Ind.* 2, *p.* 533.

The specimens here figured were found in Malabar. They seem to correspond so nearly with Roxburgh's description that I can scarcely doubt their being the same species, though they vary in some points. Judging from one or two I have seen cultivated at Madras it seems a middle sized tree.

845. CEROPEGIA BULBOSA. (Roxb. W. & A. Contributions) twining, glabrous, rather fleshy: root tuberous: leaves from suborbicular to lanceolate acuminated: peduncles many flowered, shorter than the leaves: calycine segments much shorter than the ventricose base of the corolla; tube of the corolla subclavate, segments of the limb enlarging upwards, much shorter than the tube, ciliated: middle lobes of the leaflets of the corona subulate incurved at top, lateral ones minute, acuminated lying on the primary ones. *W. & A. contributions p.* 32.

The specimen figured was grown in my garden from a root found in sandy soil on the sea coast near Point Calimere, I am uncertain whether I have since met with the plant.

846. CEROPEGIA MYSORENSIS. (R. W.) suffrutecose, glabrous, twining: leaves broad cordate ovate, acuminated: peduncles about the length of the petiols, four to eight flowered: laciniœ of the calyx acute, much shorter than the greatly dilated base of the corolla: tube of the corolla short, suddenly expanding into a large 5 clift limb, segments short, broad ovate, adhering at the point, glabrous on the margins: lobes of the corona all ligulate, the lateral ones about equaling the primary: follicles long slender irregularly curved.

Mysore twining in hedges December 1834.

I have not since met with this beautiful, copiously flowering, plant. Flowers pale straw-coloured. It is most nearly allied to *C elegans* but is readily distinguished at first sight by the uniform colour of its flowers, their being quite glabrous, but more and satisfactorily by the divisions of the staminal crown which are all equal in place of the lateral ones only about half the length of the primary.

847. HOYA OVALIFOLIA. (W. & A.) climbing, rooting along the stems, glabrous: leaves fleshy oval acuminated at both ends: peduncles shorter than the leaves many flowered: corolla puberulous within, segments ovate acute, leaflets of the staminal crown oval, obtuse, interior angle short: stigma muticous. *Wight's contributions, p.* 37.

A handsome species but apparently of rare occurrence as I have not met with it for several years, the specimen figured was found in Malabar.

848. TYLOPHORA FASCICULATA. (Ham. W. & A. Contributions) erect, or slightly twining, glabrous: leaves approximated ovate somewhat fleshy, slightly decurrent towards the ends of the branches: peduncles erect flexuose, bearing at the flexures two or three flowered facicles: leaflets of the staminal crown oblong ovate, bluntish: pollen masses transverse: stigma apiculate. *Wight's contributions, l. c.*

Copper mountains Bellary frequent, twining on grass also on low grassy hills at Courtallum twining among long grass. When it meets with support it twines to a small extent. In the analysis the peculiarities of this species are not so well shown as I could have wished.

849. OPHIOXYLON SERPENTINUM. (Linn.)
This is a plant of frequent occurrence in moist woods and being one of great beauty is also much cultivated as an ornamental shrub. The leaves are generally whorled, from three to five round the joints, lanceolate acute or acuminated, waved on the margin, glabrous; cymes axillary on long peduncles usually erect: pedicels and calyxes bright shining red which, contrasting with the pure white flowers, give the cymes a showy appearance especially when combined with its clusters of black berries.

850. ANISEIA UNIFLORA. (Choisy.) stems glabrous or pilose at the apex, prostrate: leaves oblong on very short petiols, mucronate at the apex, glabrous: peduncles equal in length to the petiols 1 flowered: outer sepals joined obliquely at the base. *Don. gard. dict.* 4, *p.* 295.

A rare plant in Coromandel. I have only once met with it near Negapatam, where this drawing was made. As I found it growing on the edge of a tank in moist sandy soil it may perhaps be more frequent in the more humid climate of Malabar where Rheede also found it.

851. ARGYREIA SPECIOSA. (Sweet Choisy. *Rivea,* R. W.) tomentose: leaves large cordate, acute, glabrous above or rarely villous, thickly nerved beneath and clothed with silky silvery down: peduncles about equal in length to the petiols, at first umbellately capitate the divisions afterwards elongating, forming lax cymes: bracteas acute unequal: sepals ovate very blunt. *Don. gard. dict.* 4, *p.* 254.

A most powerful twiner and splendid plant. The juice like that of most of the genus is milky and viscid, the flowers pink or rose colored within, but appear nearly white exteriorly, owing to the thick coat of white hair with which the tube is covered. Except in the campanulate corolla this is a *Rivea* having the 4 celled ovary of that genus.

852. DATURA ALBA. (Nees.—*D. metel* Roxb.) leaves ovate, acuminated, repandly toothed, unequal at the base, and are, as well as the stem, smoothish: stamens enclosed: fruit prickly. *Don. gard. dict.* 4, *p.* 474.

A very common plant, possessing, in every part, intensely narcotic properties which has led to its being beneficially employed in medicine for the relief of various nervous disorders and, among evil disposed persons, for other most mischievous purposes.

853. PHYSALIS SOMNIFERA. (Link. Nees,) shrubby: leaves entire: flowers crowded, nearly sessile, subverticelate. *Don. gard. dict.* 4, *p.* 44.

This is a common plant but, so far as I am aware, a useless one to man.

854. SOLANUM TRILOBATUM. (Linn.) frutescent, scandent, prickly; prickles hooked: leaves panduriformly 3 lobed, or 3 lobed obtuse, glabrous and are, as well as the petioles and peduncles, prickly: racemes subumbellate terminal and lateral: corollas deeply 5 clift. *Don. gard. dict.* 4, *p.* 437.

A common plant found creeping on the ground or climbing among hedges and bushes. The color of the flower varies from white to purplish the berries red.

855. STRIGA EUPHRASIODES. (Benth. *Buchnera euphrasioides* Vahl.Benth.) nearly glabrous, rough, leaves linear oblong: calyx oblong, marked with about 15 striœ tube of the corolla pubescent. *Benth. Scrof. Ind. p.* 41.

This plant is common in wet pasture land. Since the publication of his synopsis of Indian Scrofularinœ Mr. Bentham has revised his previous labours in this family and has separated the Indian species of *Buchnera*, from the Cape ones, under the generic name of *Striga*, mainly on account of the very different form of the corolla—being straight salver-shaped in *Buchnera* and abruptly bent in *Striga*. This therefore being a true *Striga* I have adopted the name and quote that on the plate as a synonym, without, however, approving of the principle and still less the practice of constructing genera based on such slender points of difference. So far as I can judge from a perusal of the generic character, I should suppose that a subgenus would have amply sufficed, thereby avoiding the injury to the science arising from breaking down good natural genera and unnecessarily adding to the already too long list of synonyms under which Botany groans.

856. SUTERA GLANDULOSA. (Roxb. Benth.) diffuse, clothed with glandular hairs, viscid, segments of the pinnatified leaves cut; the upper ones, with the racimes of flowers, alternate: sepals obtuse.—*Bentham's Synopsis, p.* 42.

This drawing was not made under my direction and the analysis are less perfect than I could have wished. The plants forming this genus are low diffuse herbs with opposite pinnatified leaves, pedicelled axillary, solitary, or occasionally, racemose flowers.

857. BONNAYA HISSOPIOIDES. (Benth.) stem elongated lax: leaves oblong lanceolate, remote: pedicels axillary elongated, filiform corolla three or four times longer than the calyx. *Benth. Synop. p.* 34.

This is a common plant on the banks of paddy fields and in wet pasture every where during the rainy season.

858. BONNAYA MINIMA? (G. Don. *Gratiola minima.* Roth.) stem filiform erect simple: leaves oblong, sessile, remote, serrulated and are, as well as the calycine segments, ciliated on the margin: capsule oblong, rather longer than the pedicels. *Don. gard. dict.* 4, *p.* 538.

This very minute species is found in paddy fields, but to the best of my recollection is of rare occurrence. The flowers are pale yellow. I am uncertain whether this is Roth's plant, but I think it corresponds well with the character and, like it, only attains the height of about 3 inches.

859. DOPATRIUM LOBELIOIDES. (Benth. *Gratiola lobelioides* Roxb.) stem elongated, sparingly branched: leaves of the stem minute,obtuse: capsules globose: corolla nearly five times the length of the calyx. *Benth. Synop. p.* 31.

Frequent in rice fields growing in water, flowers usually pale blue, longish pedicelled; racimes on the ends of the branches. The draftsman from not understanding it, has not clearly shown the structure of the capsule which is four valved. This however is unquestionably Mr. Bentham's plant.

Figure 4 is a detached anther considerably magnified.

860. LIMNOPHILA POLYSTACHYA. (Benth.) leaves emersed ternnately whorled, 3 nerved: racemes branched, slender many flowered: flowers small sessile. *Benth. Synop. Scropularinœ Indicœ, p.* 27.

Not unfrequent in rice fields and other flooded grounds in the Tanjore district and indeed in most parts of Coromandel. Flowers small white.

861. LIMNOPHILLA RACEMOSA (Benth. *Cyrilla aquatica* Roxb.) leaves emersed opposite or subverticelled, three nerved, entire, or the lower ones divided: racemes dense many flowered; flowers pedicelled and like the membranaceous calyx smooth. *Benth. Synop. Scroph. Ind.* 26.

A native of flooded ground such as rice fields the flowers are purplish, possessing considerable fragrance.

862. TORENIA ASIATICA. (Linn.) leaves ovate or ovate lanceolate: peduncles axillary fascicled: calyx oblong, contracted at the base, about half the length of the corolla. *Benth. Synop. Scroph. Ind. p.* 38.

An alpine or subalpine plant very widely diffused in alpine regions. The specimen selected by the draftsman for the illustration of this species is not so favourable a one as might have been. The plant itself has little beauty, except when forming a compact tuft with a number of open blossoms when it does become one strikingly so, owing to the deep rich purple of its flowers.

863. VANDELIA CRUSTACEA. (Benth. *Gratiola lucida*, Roxb.) diffuse, glabrous: leaves ovate: peduncles axillary or subracimose two or three times longer than the calyx: calyx before expansion 5 toothed, afterwards 5 parted, exceeding the ovate capsules. *Benth. Synop. Scroph. Ind.* 35.

A very widely distributed plant and well represented in this figure.

864. ANISOMELES MALABARICA. (Brown. Benth.) tomentosely villous: leaves oblong lanceolate narrowing at the base: verticillasters many flowered, dense, or at length elongating into large cymes; floral leaves, bracts, and subulate teeth of the calyx very soft. *Benth. Lab. p.* 704.

Frequent in many parts of the Carnatic, but has an extensive range, being also found in Burmah, the Mauritius, Penang, Java, China, &c.

865. ANISOMELES OVATA. (R. Brown.—Benth.) hairy or subglabrous: leaves ovate or roundish, acuminated, rounded, or truncately subcordate, at the base; verticillasters dense, many flowered, teeth of the calyx lanceolate acute. *Benth. l. c. p.* 702.

A common plant not very ornamental and with as wide a geographical range as the preceding.

866. LEUCAS BIFLORA. (Brown. Benth.) herbaceous diffuse: leaves ovate, coarsely dentate, pubescent on both sides: verticillasters two flowered; bracteas minute: calyx tubular, mouth equal, teeth subulate. *Benth. l. c. p.* 610.

A low growing plant, common in arid jungles, very polymorphous in its general appearance. The form here represented is not the most common, but being suitable for the size of the plates was taken. I have seen plants three or four feet long, usually lying on the ground, but sometimes climbing to that height among bushes.

867. LEONOTIS NEPETIOFOLIA. (R. Brown—Benth.) herbaceous: leaves ovate crenate: all the teeth of the calyx spinous, the upper one larger ovate: corolla (red) about twice the length of the calyx. *Benth. l. c. p.* 618.

This very conspicuous plant, owing to its large redish orange coloured flowers, is usually found growing among rubbish and in neglected places, flowering at all seasons. It is widely distributed over the world, being found in the tropical parts of Asia, Africa, America, and New Holland.

868. OCIMUM BASILICUM. var. THYRSIFLORUM (Benth.) herbaceous, erect or ascending: leaves petioled, ovate or oblong narrowing at the base, subdentate, glabrous; petiols ciliate: racemes simple: calyx longer than the pedicel, the fruitiferous ones reflexed, campanulately inflated, gibbous above the base, superior division ovate concave, with a short acumen, its wings not extending to the base of the calyx; the lateral teeth ovate acute, the lower ones setaceous pointed: superior filaments appendiculate—[var. THYRSIFLORUM erect, glabrous, petiols and calyx scarcely ciliate, raceme thyrsoidly ramose. *Benth Lab. page* 4.

869. PREMNA LATIFOLIA. (Roxb.) arboreous: leaves round cordate, entire, smooth: corymbs axillary and terminal: throat of the corolla woolly. *Roxb. Fl. Ind.* 3, *p.* 76.

A common shrub, flowers of a dirty yellow colour, drupe about the size of a pea erect wrinckled 4 celled.

870. BARLERIA BUXFOLIA. (Lin. Nees.) shrubby: hairs spreading: bracteoles axillary paired, spinous, opposite, divariced, alternately one flowered and sterile: leaves elliptic, acute at the base, spinously mucronate: laciniœ of the calyx shorter than the spines, the inferior one obtuse, emarginate. *Nees. in Wall. pl. Asiat. rar.* 3, *p.* 94.

A low growing thorny shrub, frequent in poor lands and about road sides. The flowers open in the course of the night and generally drop before midday. They vary in colour from white to rose colour.

871. HEXACENTRIS MYSORENSIS. (R. W.) leaves elliptic oblong, acuminate, crenate, three nerved, reticulated: anthers bearded: stigma tubular.

Mysore.—I am indebted for the drawing and specimens of this plant to the kindness of Mr. Stokes of the Mysore commission, who found it near Nuggur in Mysore. It is the only specimen I have seen: the dissections were made by my Draftsman. The limb of the corolla is bright yellow the tube purplish. The bearded anthers and tubular stigma seem to indicate that it might form the type of a new, or at all wents a sub genus, but not having fruit I prefer leaving it here.

P. S.—Since writing the above I have seen fruit which does not differ from those of *Hexacentris* 1, therefore, think it advisable to view the hairy anthers rather as a sectional than generic character.

872. THUNBERGIA GRANDIFLORA. (Roxb. Nees.) scandent: leaves cordate, angled, acuminated, hispid: limb of the calyx truncated, entire. *Nees. in Wall. pl. As. rar.* 3 77.

This plant I have never met with wild. The specimen here represented was obtained from the Mysore Horticultural Society's Garden at Bangalore. It is an extensively twining handsome plant, well fitted for arbours.

873. STENOSIPHONIUM RUSSELIANUM. (Nees.) leaves ovate, dentate, glabrous beneath: bracts rhomboid obtuse, cuspidate, equaling the calyx. *Nees. in Wall. pl. Asiat. rar.* 3, *p.* 84.

The specimen here figured differs a good deal in appearance from the one so named by Professor Nees in my herbarium, especially in the shorter spikes and greater abundance of flowers, but still I believe them only different states of the same plant, they are from the same locality, namely the Pulney mountains. This form is also met with on the Neilgherries.

874. BOERHAAVIA PROCUMBENS. (Roxb.) root fusiform perenial: branches procumbent, smooth: leaves variously cordate, covered with a silver coloured pellicle underneath: flowers terminal in long peduncled heads: stamens three. *Roxb. Fl. Ind.* 1, *p.* 148.

A very common and troublesome weed, always in flower. The young leaves are eaten by the natives as greens and made into curries.

The analysis of the seed, though strictly correct, as seen in the sections represented, does not convey a correct idea of the structure, a circumstance which I regret to find I overlooked when sending the drawing to the press. fig. 6 seems to represent the embryo surrounded by albumen in place of conduplicate and enclosing a central albumen. This is shown in figure 7, where the cotyledons are unfolded, but not clearly.

Roxburgh seems to think this the only Indian species, there are certainly other two, namely, the following which I have ventured to consider undescribed and another larger flowered species probably *B. diffusa*.

875. BOERHAAVIA STELLATA. (R. W.) decumbent: leaves succulent, cordate ovate, obtuse, mucronate: racemes long peduncled: flowers verticelled, subsessile, interruptedly subspicate: ovary elongated, clavate, furrowed, the intermediate ridges furnished with viscid glands, five, round the apex, elongated, spreading starlike.

Tinnevelly in black cotton ground frequent, forming dense tufts, also, but sparingly, in Coimbatore. Its whole appearance is different from the preceding and is at once distinguished by its white flowers, the viscid glands and stellate processes surrounding the apex of the fruit. In that part of its structure it approaches *B. scandens* as figured by Gartner.

876. AERUA JAVANICA. (Juss.) stem erect, and like the oblong obtuse pale greenish leaves, clothed with woolly tomentum: spikes cylindrical, crowded towards the ends of the branches, villously tomentose. *Sprengel Syst. Veg.* 1, *p.* 815.

An exceedingly common and troublesome weed, found nearly all over the Southern provinces of India, but so little known in the Northern ones that Roxburgh seems never to have met with it, as it is not mentioned in his Flora Indica.

1 flowering plant—2 detached flower—3 flower forcibly opened—4 ovary and stamens detached—5 ovary opened showing the single ovule and podosperm—6 ovule detached—7 mature seed—8 cut vertically the embryo rolled round a minute farinacious albumen.

877. ACALYPHA INDICA. (Linn.) spikes axillary lax: male flowers few; females more numerous, alternate: involucra several flowered, glabrous, subdentate: leaves long petioled rhombeo ovate, serrated. *Sprengel Syst. Veg.* 3, *p.* 880, *slightly altered.*

Frequent among bushes in subalpine jungles, also in gardens and about old walls where vegetation is luxuriant. The curious body, apparently sterile flowers, which terminates each spike in this species, readily distinguishes it from all the other Indian ones.

1 flowering plant,—2 portion of a spike showing both male and female flowers with its terminal cross—3 a male flower—4 female flowers and bractea—5 fruit, one of the carpels opened to show the seed—6 a fruit cut transversely.

878. DIOSCORŒA BULBIFERA. (Linn.) leaves alternate deeply cordate, acuminate, 7 nerved; the exterior nerves 2 clift; transverse veins reticulated: stem bulbiferous: male spikes fascicled. *Sprengel Syst. Veg.* 2, *p.* 152.

This drawing was made from a cultivated plant which may perhaps account for the flowers being bisexual in place of dioicous as usual in the genus.

1 flowering plant with a large round tuber on the stem, —2 flowers—3 calyx, lobes detached—4 a flower, the calyx lobes removed to show the sexual organs—5 stamens.

KYDIA. Roxburgh.

Roxburgh in establishing this genus assigned two species to it, *K. calycina* and *K. fraterna* but with characters so loosely constructed that, but for his figures, there would have been some difficulty in distinguishing them. Having got specimens of three different forms it became necessary to determine their species. This I found more difficult than I had anticipated. Had I only possessed the plant here figured No 879 I should have had no hesitation in considering it *K fraterna*, with which it sufficiently accords in the form, size and number of the segments of the involucrum, also in form of the stamens and in the stigmas not projecting from the staminal tube. But on the other hand, I could find no mark by which to separate it from another, herbarium specimen I had, marked *K. calycina*, covered with fruit.

This led me to examine the only flower left on the fertile specimen which proved its identity with Roxburghs *K. calycina*. The circumstance of every flower of the one having passed into fruit while all those of the other were sterile at once solved the difficulty by showing that the tree is occasionally polygamous, that is, sometimes fertile sometimes sterile. Roxburgh's *K. calycina* is the fertile form, as indicated in the flower by the largely developed styles and stigmas projecting beyond the staminal tube, and his *K. fraterna* is the sterile one, in which the female organs are comparatively rudimentary and not seen until brought to light by dissection. For these reasons I unite his two species, under the older name of *calycina*, which I have further endeavoured to illustrate by contrasting the analysis of his two species with a similar series prepared from my sterile form and fruit taken from the fertile specimen. To the difference of appearance between my figures and his I attach no importance, depending as they do on the flowers of my specimen having faded somewhat, before they reached the artist. After uniting the fertile and sterile forms, I had still a third to dispose of, that I have considered a distinct species, and have dedicated it to the ever-to-be respected founder of the genus.

The preceding observations will explain the cause of Roxburgh's never having seen the ripe seed vessel of *K. fraterna* though the "structure and contents of the germen promise the same parts as that of the other species."

879. Kydia calycina (R. W. *K. calycina and fraterna* Roxb.) arboreous, polygamous: fertile flowers: involucels usually four leaved, longer than the calyx, spathulate, enlarging with the fruit: filaments united their whole length into a tube: style elongated, stigmas projecting: male; involucel 4-6 leaved shorter than the calyx, lanceolate, blunt: filaments united about half their length, free above: petals in both emarginate, ciliate. Flowers, white or pale yellowish. The figure is of the male plant corresponding with *K. fraterna* Roxb.

In the valleys of the Circar mountains Roxb. on the northern or Mysore slopes of the Neilgherries flowering time the cool season: August, in Mysore.

880. A. Kydia calycina, dissections from the Neilgherry plants.

1 an expanded flower seen from above—2 seen from below—3 corolla and stamens detached—4 calyx detached, 5—involucel and rudimentary ovary—6 anthers—7 style and stigmas shorter than the staminal tube—8 ovary cut vertically—9 cut transversely—10 & 11 front and back views of immature fruit taken from a fertile specimen.

B. Kydia fraterna (Roxb.) (By mistake marked *K. calycina*) showing the short contracted staminal tube and lengthened filaments of the preceding form. Copied from Roxburgh's figure.

C. Kydia calycina. (Roxb.) (also marked wrong) showing the short tube of the filaments and anthers sessile on the apex with the tops of the long styles and stigmas projecting beyond. Copied from Roxburgh's figure.

881. Kydia Roxburghiana. (R. W.) arboreous, polygamous? fertile flowers: involucel 4-5 leaved; leaves at first obovate obtuse, about the length of the calyx, afterwards enlarging, becoming narrow spathulate: filaments short, united at the base, free above; style exceeding the stamens, stigmas large dilated. Flowers small, tube purple, limb pale rose colour.

Hamilton has a species which he named *R pulverulenta* but it is not described and may be either this or the other.

Dissections the same as above.

882. Microchlœna quinquelocularis. (W. & A.) involucel leaves minute, caducous, 3-5-lobed: ovarium 5-celled: stigma 5-lobed. *W. & A. Prod. p.* 71.

Slopes of the Neilgherries frequent. A moderate tree flowering in July and August, maturing its fruit during the cool season. This, which is the only species of the genus ought, I think, to have been united to *Eriochlœna* DC. from which it assuredly does not differ in any essential point.

1 flowering branch—2 flowers—3 petals back and front veins—4stamens—5 anthers—6 calyx and ovary—7 stigma—8 ovary cut transversely—9 cut vertically—10 a fruit about half grown—11 cut vertically showing several supreposed seed—12 a seed—13 flower bud and involucel—14 & 15 upper and under surfaces of a leaf *all magnified.*

883. Impatiens, oppositifolia. (Linn.) W. & A.: branches diffuse, filiform, flaccid: leaves opposite, from narrow linear-lanceolate at the top of the stem to board obovate-lanceolate near the base, acute, membranaceous, slightly serrated, serratures bristly: pedicels axillary or in pairs, not half the length of the leaves, very slender: lower sepal cucullate, with a very short conical nearly straight spur: anterior lobe of the petals elongated, tapering much towards the base: stigmas united: capsule glabrous, narrow, tapering at both ends, with about 2 seeds towards the middle and a constriction between them. *W. & A. Prod. p.* 139.

Malabar flowering in July. This I found in great abundance near Walliar in moist jungles, during the prevalence of the South West monsoon, and at the same time and place the following.

884. Impatiens Kleinii. (W. & A.) W. & A.: erect, with spreading diffuse branches: leaves opposite, from obovate and obtuse to lanceolate and acute, with a large gland on each side near the petiole; upper side hairy on the veins and near the margin; under glaucous: pedicels solitary or in pairs filiform, longer than the obovate leaves, shorter than the lanceolate ones, in fruit reflexed: lateral sepals linear, equal to the column; posterior one hairy, concave, larger than the posterior lobe of the petals, much smaller than the elongated obovate anterior lobe; lower one with slender spur, nearly twice the length of the flower: capsule narrow-oblong, tapering at both ends, few seeded. *W. & A. Prod. p.* 140.

885. Crotallana rubiginosa. (Willd. W. & A.) low, shrubby, branched, diffuse, slender, densely pubescent: stipules triangular at the apex, decurrent: leaves simple, from elliptic-oblong to rounding, mucronate, slightly tomentos eand glaucous beneath racemes lateral: legume sessile, about twice the length of the calyx. *W. & A. Prod. p* 181.

This low diffuse growing plant is of frequent occurrence in alpine districts. The specimen from which this figure was taken was gathered on the Neilgherries.

886. TOXOCARPUS KLEINII. (W. & A.) stems glabrous ramuli pubescent: leaves elliptic, abruptly acuminated: corymbs subsessile, branches divaricated longer than the leaves: flowers pedicelled; segments of the corolla ligulate glabrous, throat pilose; leaflets of the staminal crown ovate bidentato-truncate, the apex furnished with an interior exserted flat lacinia subtridentate at the point; stigma rostrate, slightly bifid at the apex, a little longer than the tube of the corolla: follicles arcuately reflexed. *Wight contributions, p.* 61.

Twining in hedges near the sea coast in Tanjore about Negapatam.

1 flowering branch—2 detached flower—3 corolla—4 calyx removed and limb of the corolla drawn back to show the crown more highly magnified—5 pollen masses—6 follicles.

I am indebted to Dr. Greville of Edinburgh for Nos. 4 & 5 of these analyses.

887. IPOMŒA RUGOSA. (Choisy.) stems creeping: leaves cordately reniform, glabrous, obtuse, mucronulate: peduncles usually shorter than the leaves: sepals ovate, outer ones shortest and rugosely plicate. *Don. dict.* 4, *p.* 266.

Frequent in moist soil as about the banks of water-courses and under the bunds of tanks, flowers usually pink sometimes pure white.

In this plate the figure No. 4 represents the calyx with its two rugous sepals, the best distinguishing mark of the species.

888. RIVEA POMACEA. (R. W. *Argyriea pomacea* Choisy.) leaves clothed with cinerious velvetty down on both sides but especially beneath: peduncles exceeding the petiols, somewhat cymose, many flowered: bracteas linear lanceolate adpressed to the flowers, sepals ovate lanceolate obtuse, rather villous. *Don. l. c.*

This is a strong growing species frequentabout Coimbatore twining over hedges and bushes. Juice milky, flowers pink, berries yellow when ripe, pulpy. The analysis of this and two subsequent species Nos. 890 & 91 clearly show that in all of them the ovary is 4 celled and fruit baccate and to that extent all are clearly referable to Choisy's genus *Rivea* to which, I have referred them. I have however found this character so universal in the genus that I am becoming more and more fearful, if rigidly adhered to, that he older name will be blotted out of Botanical nomenclature and would therefore suggest that the generic character be so extended as to include all those species having baccate fruit whatever the form of the corolla or number of cells of the ovary. All that I have yet seen are further distinguished from Ipomœa by their woody subarboreous habit abounding in milky juice.

889. CAPPARIS DIVARICATA. (Lamark. W. & A.) glabrous: stipules thorny short, curved: leaves very shortly petioled, exactly linear, elongated, mucronate, coriaceous: flowers axillary, solitary, short pedicelled: petals linear spathulate, ciliate, acuminated. *W. & A. Prod. p.* 27.

Very common about Coimbatore, usually appearing as a small very ramous shrub, exactly agreeing with the first part of the above character, and in that form never in flower; hence neither Lamark nor ourselves had seen flowers. More rarely it attains the size of a small tree, with a round dense top, the ends of the branchlets drooping. In this state only I have seen it in flower and this figure gives a good representation of a branch taken from a tree rather larger than is usually met with. The natives seem to associate some sacred idea with this tree, as I have frequently seen swammy idols under its shade.

890. RIVEA CUNEATA. (R. W. *Argyriea Ker*, Choisy. &c.) smoothish: leaves obovate cuniate, emarginate, glabrous above, but beset with short crowded hairs beneath, hardly petiolate: peduncles shorter than the leaves 3-6 flowered: bracteas linear very acute: sepals, ovate obtuse, equal, villous. *Don. l. c.*

This species is very abundant in Mysore and is also generally met with in alpine districts, but rarely below 2500 feet of elevation. It is a beautiful shrub when in full flower, rarely twining but does sometimes. The fruit after maturely becomes dry and capsular forming as it were the transition from the succulent fruit of *Argyriea* to the capsule of *Ipomœa.*

891. RIVEA HIRSUTA. (R. W. *Argyriea hirsuta.* W. & A. *Madras Journal.*) hairy all over; leaves cordate at the base, harshly tomentose beneath: flowers cymose; peduncles usually longer than the leaves: flowers large tubular, stamens included: fruit ovate pyramidal pointed deep orange coloured when ripe. Neilgherries flowering the greater part of the year.

It seems, to me, doubtful whether this and several other reputted species, found on these hills, may not require, on more careful examination, to be united into one.

892. HELIOTROPIUM ZEYLANICUM. (Lam.) stem shrubby branched, clothed with stiff bristley hairs: leaves linear lanceolate pilose on both sides: racimes axillary, numerous towards the ends of the branches, much longer than the leaves, forked; flowers secund sessile: corolla tubular 5 clift, throat platied; segments of the limb spreading acuminated: anthers sessile, included, connective produced beyond the cells, 3 toothed at the apex.

Frequent in cultivated land about Coimbatore but generally a rare plant in India. Burman's figure (Fl. Indica) taken from a dried specimen, is most characteristic of the plant in that state but gives an imperfect idea of the growing one.

893. SOLANUM GIGANTEUM. (Jacq.) stem shrubby: prickles tomentose at the base: leaves elliptic lanceolate acute, unarmed, entire, glabrous above, clothed with hoary tomentum beneath: racemes dichotomous cymose lateral, many flowered, clothed with white tomentum. *Don. dict.* 4, *p.* 430.

A subalpine shrub: the specimen here figured grew on the Neilgherries at an elevation of 6000 feet.

The flowers which are small, pale purple, nearly hid in the woolly calyx, are at first drooping afterwards erect, and the clusters of fruit always erect. This plant has the property of expanding the flowers of each corymb in such slow succession, that ripe berries and unopened flower buds are common in the same cluster.

894. BUDLEA DISCOLOR. (Roth.) arboreous; branches almost terete, compressed at the nodi, tomentose: leaves lanceolate, acuminated, subserrated, glabrous above, pale beneath, or clothed with white tomentum: spikes interrupted slender, simple or panicled: bracteas linear, lanceolate; flowers nearly sessile subglomerate: capsules reflexed. *Don. gard. dict.* 4, *p.* 600.

A subalpine plant common on the slopes of the Neilgherries scarcely attaining to an elevation of 6000 feet, though most abundant, a little lower. No. 11 of the analysis represents a seed highly magnified but conveys very imperfect idea of its beauty when seen under a good magnifier.

895. Œginetia indica. (Roxb.) scape nearly simple, elongated, naked, one flowered : limb of the corolla shortly 5 cleft.

Jungles near Paulghaut, among decaying vegetation, very abundant : flowering in June and July.

On comparing my figure with those of Rheede and Roxburgh I cannot help thinking that, in quoting Rheede's figure as a synonym for his, Roxburgh has fallen into error and that Rheede's plant is identical with mine but different from Roxburgh's, I must however leave them as find them for the present.

896. Basella alba. (Linn.) stem twining perennial : leaves ovate undulated : spikes peduncled simple. *Spreng. Syst. Veg. p.* 95.

This is a common plant occurring in every part of the country: the succulent leaves are dressed and eat like spinage. The most curious part of the structure of this plant is the seed the embryo of which is rolled up like the main spring of a watch.

897. Euphorbia antiquorum. (Linn.) stems jointed erect ramous, 3-4 or more angled angles furnished with numerous protuberances (floral eyes or buds) each armed with two short spreading stipulary spines : joints straight: peduncles solitary or in pairs, usually 3 flowered, a little above the axles of the stipules.

Common all over India : a very polymorphous plant. No character can be derived from the number of angles that being most variable. It is however quite distinct from the following and easily distinguished by the straight not twisted stems and the peduncles being few, one or two, from each protuberance or bud ; while in the other they are numerous.

898. Euphorbia tortiles. (Rottler.) stems erect, ramous, jointed, joints spirally twisted, angular; angles furnished with armed protuberances ; flowers numerous fascicled on the angles : peduncles 3 flowered.

I suspect when this family shall have been more closely studied the best specific as well as sectional characters will be derived from the parts enclosed within the cup of the involucrum, the appendages of the flowers, that is, viewing each stamen and ovary as a distinct flower These parts, as shown in this and the preceding plate, are sufficiently distinct in form to encourage further investigation in that direction.

899. Kœmpferia galanga. (Linn.) leaves round ovate cordate : spikes central, upper segments of the inner border of the perianth, corolla, oval emarginate.

This I have only seen wild on the Malabar coast, the figure was taken from a plant I found in Travancore near Trevandrum.

900. Remusatia vivipera. (Shott.) in No. 798, I gave from Roxburgh a figure of the vivipuous form (see *Arum viviparum*) of this species. I here give the much rarer one, in which it presents the normal form of the genus.

The drawing was prepared from specimens gathered at Courtallum along with the other, this being exceedingly rare, while the other was most abundant.

901. Microstylis versicolor. (Lind.) stem leafy : leaves cordate or ovate oblong, abruptly petioled, undulated plaited ; lip transverse, dentated on the margin, cucullate, slightly overlapping at the base : column bicornate at the apex sepals : and petals secund. *Lind. genera and species, p.* 21.

Liparis densiflora ? Richard Ann. des scianees v. 15.

Frequent on the Neilgherries and other elevated stations in grassy pastures.

The specimen here figured was gathered on the Pulney mountains but is quite identical with the Neilgherry plant.

902. Microstylis Rheedii. (Lind.) stem leafy : leaves oblong lanceolate plaited : lip truncated dentate, largely overlapping at the base. *Lind. gen. and species, p.* 21.

Pulney mountains among pasture—August 1836.

This species has long rested on Rheede's figure, and Dr. Lindley in his recent work "Genera and Species of Orchideous plants" remarks "I do not think there are any materials in this country sufficient for determining exactly what the *Malaxis Rheedii* of Swartz is or rather the *Basaala Poulou Maravara* of the Hortus Malabaricus upon which that species is founded." Under the conviction that this is actually Rheede's plant I publish this figure though less perfect in its details than I could wish partly owing to my indifferent acquaintance with the tribe when it was executed, and partly from the Artists want of practice at that time in representing Orchideæ.

903. Leparis olivacea. (Lindley.) leaves binate or solitary, roundish cordate or oblong, acuminated, plicate, shorter than the erect many flowered raceme : scape terate at the base : lip obovate retuse with a mucro, bituberculate at the base : sepals obtuse, lateral ones resting on the lip. *Lind. l. c. p.* 26.

Pulney mountains, on rocky clifts covered with herbage. I have some doubts as to this being Lindley's plant from which it differs in some particulars. There are three in place of one or two leaves and the lip is emarginate retuse in place of mucronate, besides which there may be other distinctions not marked.

904. Liparis atropurpurea. (Lind.) leaves two or three, roundish, acuminated, petiolated, plaited, obliquely cuculate at the base, about as long as the erect, few flowered raceme : labellum oblong, obtuse, recurved, crenulate : lateral sepals oblong lanceolate oblique : petals long filiform. *Lind. l. c. p.* 28.

Pulney mountains among rocky clifts sparingly covered with pasture—also from Ceylon.

Flowers purple, large in proportion to the size of the plant.

905. Liparis Walkeriæ. (Graham Bot. Mag.) leaves two or three, roundish ovate, acute, petioled, plicate, oblique at the base, cuculate, shorter than the erect, many flowered, raceme : peduncles angled : lip roundish, reflexed, crenulated : sepals spreading oblong, margins revolute, the germen and filiform petals equal.

Graham Bot. Mag. No. 3770.

I am uncertain whence I obtained the specimen here figured but believe it was at Courtallum in 1835. It is much larger than the one figured by Dr. Graham, but is I think unquestionably the same plant.

906. Liparis longipes. (Lind.) pseudo bulbs long, terete, two leaved : leaves ensiform lanceolate : raceme straight many flowered ; scape ancipitous : lip ovate acute, without tubercles, length of the column : sepals ovate : petals linear. *Lind. l. c. p.* 30.

Courtallum flowering in July and August. I have also specimens from Ceylon. My specimens are all much smaller than Dr. Wallich's Nepaul one figured in the Plant. As. Rareores.

907. Pholidota imbricata. (Lindley) pseudo bulbs ovate oblong obtuse, somewhat angled : leaves solitary, oblong lanceolate, plicate, acute : spikes the length of the leaves, pendulous ; bracteas membranaceous, concave, imbrecated : lateral sepals ovate carinate : lip subglobose cuculate, lateral lobes small, erect, intermediate one two lobed cordate. *Lind. l. c. p.* 36.

Courtallum—I have also frequently met with it in other stations also in Ceylon.

908. DENDROBIUM PIERARDI. (Roxb.) stems pendulous glabrous : leaves ovate-lanceolate acute : flowers in pairs, forming a spurious raceme : sepals acuminate membranaceous : petals larger than the upper sepal, acuminate : lip dilated cuculate somewhat truncated ciliated. *Lind. l. c. p.* 79.

Pendulous from trees. The ignorance of the Transferrer of the habit of this plant, had made him turn it upside down.

909. DENDROIBUM HEYNEANAM. (Lindley) stem erect, flexuose,clavate,clothed with the lax sheaths of the leaves : leaves linear lanceolate, acute : racemes axillary, spreading, many flowered : bracteas, minute ovate : sepals and petals ovate lanceolate acute, about equal : lip three lobed, united with the base of the column ; a longitudinal callosity on the disk ; lateral lobes acute, the middle one roundish, fleshy inciso crenate. *Lind. l. c. p.* 90.

Epiphytical on branches of trees in Malabar. "The spreading many flowered peduncled racemes, combined with the figure of the lip are alone sufficient to distinguish this species." Lind.

910. DENDROBIUM BARBATULUM. (Lindley) stems terete aphyllous : racemes lateral and terminal, many flowered : sepals ovate acuminate ; petals obovate acute larger than the upper sepal : lip flat, obovate-obtuse, apeculate, entire, bearded at the base. *Lind. l. c.p.* 84.

This seems to be a very handsome species, growing on trees, but of which little is yet known, the specimens from which it was taken up having been poor ones. The one figured here was found in Malabar. The flowers are pale straw coloured.

911. CYMBIDIUM TRISTE. (Willd.) leaves terete : umbels subsessile : sepals and petals connivent, fleshy, oblong, cymbiform : lip oblong, about twice as broad as the sepals. *Lind. l. c. p.* 167.

This is a difficult plant to dry hence Dr. Lindley seems imperfectly acquainted with it, having only had a bad worm eaten specimen to examine. I cannot understand, however, on what principle the racemes of this and one or two other allied species are called umbels, they are short but distinctly racemose. Another peculiarity of some species of the section of the genus to which this belongs is the form of the lip, a hollow inflated sack.

912. GIODORUM DILATATUM. (R. Brown) scape shorter than the leaves, spike pendulous : flowers congested, lip subcalarate, dilated at the apex, crenulate. (*Brown Hort. Kew. Lind. l. c. p.* 175.

This is a widely distributed plant. Rheede found it in Malabar, Roxburgh in the Circars, Blume in Java, Colonel Walker in Ceylon, and the plant here figured I found within a few miles of Coimbatore.

Kanathkoovoodoo, August 1843, in clefts of rock under the shade of bushes.

The figures of the elaborate analysis seem all so plain as scarcely to require explanation with the exception of No. 13, which is a transverse section of a nearly full grown fruit.

913. EULOPHIA VIRENS. (R. Brown) leaves grass-like, linear-lanceolate, shorter than the branched scape : sepals and petals oblong obtuse narrower at the base, tessellated : lip three lobed bearded, lateral lobes shorter middle one, ovate obtuse with an erectish conical spur. *Lind. l. c. p.* 183.

This specimen was found with the preceding in clefts of rock filled with vegetable earth in great abundance some of the specimens upwards of 3 feet high.

914. ANIA LATIFOLIA. (Lindley) leaves oblong plicate shorter than the scape : lip unguiculate three lobed, cohering with the elongated base of the column ; lateral lobes obtuse, shorter than the roundish ovate acute middle one ; the claws furnished with three truncated lamellœ terminating below the sinus of the lobes, that of the middle one 5 toothed, the lateral ones shorter. *Lind. l. c. p.* 130.

Not having the original drawing by me I am at present unable to give the station of this plant, but believe Pulney mountains. I suspect it is not the species described by Dr. Lindley, differing as it does so materially in the character of the lip and its lamellœ, neither do I feel quite certain that the structure of the anther case is the same as in his, but as I have not the specimens at hand to ascertain that point by examination. I am for the present compelled to leave the matter in a state of uncertainty.

915. VANDA SPATHULATA. (Sprengel) leaves ovate oblong obtuse, oblique, emarginate : racemes erect many flowered, much longer than the stem and leaves : sepals and petals oblong obtuse flat : two callosities in front of the base of the lip, limb rhomboid, incurved at the apex, crestate : ovary six winged. *Lind. l. c. p.* 216.

A beautiful species growing on trees "the leaves and racemes often marked with blood coloured spots, flowers yellow spotless, base of the lip white within."

The specimen figured was gathered in Malabar.

916. VANDA ROXBURGHII. (R. Brown) leaves obliquely tridentate at the apex : racemes erect, longer than the leaves : sepals and petals oblong obovate undulated obtuse, middle lobe of the lip emarginate. *Lind. l. c. p* 215.

A splendid species, remarkable for its finely lessilated petals ; is found epiphytical on tress, especially the mango. The specimen figured was found in Malabar. This is the *Cybidmium tesseloides* of Roxb. Fl. Ind.

917. SACCOLABIUM WIGHTIANUM. (Lindley, *Œrides radicosum ?* Rich.) leaves channeled, narrow, obtuse, fleshy, subequal at the apex : racemes erect ramous, longor than the leaves : sepals and petals ovate obtuse : lip with a cylindrical obtuse bent spur ; limb furnished at the base with a two lobed fleshy callosity, lateral lobes rounded : capsules three winge and three furrowed. *Lind. l. c. p.* 221.

Epiphytical on branches of trees, this specimen grew is from the Pulney's, flowers rose colored.

The specimens from which the species was originally taken up, were far from good and the character is unavoidably imperfect, but sufficiently so to leave little room to doubt that this is the plant. I have quoted Richard (Annal des Sciences. Vol. 15) with a doubt though I believe unnecessarily his description and figure, agreeing so well with my plant. The erect not recumbent column and entire not 3 lobed lip of his plant show that it is not referable to *Œrides* at least as defined by Lindley.

918. CALANTHE EMARGINATA. (Lindley) leaves broad lanceolate : spike erect slightly pubescent : lip with two callosities, limb 3 lobed, middle one emarginate, spathulate, the lateral ones minute : spur linear somewhat compressed equaling the ovary. *Lind. l. c.* 249 *from Blume. Amblyglottis emarginate* Blume.

This plant does not seem hitherto to to have been found in India, the above character, which applies well, having been taken from a Java specimen. Flowers purplish blue or violet.

919. PLATANTHERA LUTEA. (R. W.) stem erect, lower half clothed with sheathing scales, above leafy: leaves ovate lanceolate acute: bracteas foliaceous, ovate, cucullate, acuminated, equaling the flowers. sepals ovate obtuse the lateral ones ascending: petals smaller, linear lanceolate; lip 3 lobed, about the length of the sepals, lobes, obtuse, entire, lateral ones smaller; spur pendulous clavate somewhat shorter than the ovary.

Pulney mountains in pastures among long grass, flowers yellow. I have not met with this species in any other station. It seems a genuine Platanthera though so very different from the next. I thought at first it might be a *Peristylus* but the free sepals and long spur induce me to place it here.

920. PLATANTHERA SUSANNÆ. (Lindley) stem leafy about three flowered: leaves ovate oblong acute, upper ones cuculate acuminated: sepals ovate obtuse, lateral ones oblique the dorsal one rhomboid: petals linear acute; lip three parted, lateral lobes truncated many cleft, the middle one linear spur double its length. *Lind., l. c. p.* 295.

Pulney mountains with the other. This magnificent species seems very widely distributed Amaboyna, Cochin China, New Holland, and India all claim it as a native. I have never met with it except once, but I have a specimen from the vicinity of Bombay, for which I am indebted to the kindness of Mr. Law, of the Bombay Civil Service, as well as for many other highly interesting additions to my herbarium, for all of which I beg to tender my sincere thanks.

921. PERISTYLUS PLANTAGENIA. (Lindley) leaves (3) erect oblong lanceolate acute, almost as long as the spike: sepals ovate: petals roundish obtuse: lip roundish obtusely tridentate; spur spheroid. *Lindley, l. c.* 300.

In moist pasture in the forests of Paulghaut flowering in May and June, flowers small, white. Dr. Lindley describes this species from Ceylon specimens.

922. HABENARIA LINDLEYANA. (R. W.) leaves few distant, roundish ovate cordate, acuminated: raceme many flowered: bracteas foliaceous equaling the flowers: posterior sepal truncated at the apex, the lateral ones ovate acute: petals two parted, segments linear subulate, about equal; lip 3 parted, middle segment the longest.

Pulney mountains in pasture. In the character of the flower this seems allied to *H. Salaccensis* Blume, but as it is impossible to determine, from such a character as he gives, I have thought it safer to consider it a distinct species.

923. HABENARIA HEYNEANA. (Lind.) leaves narrow oval acute: raceme lax secund few flowered; bracteas foliaceous cuculated, somewhat ventricose, acuminated, longer than the flowers: lip 3 parted segments about equal, the length of the sepals, middle one narrow oval, lateral ones filiform incurved: sepals and petals about the same length connivent, spur pendulous filiform shorter than the ovary. *Lind. l. c. pg.* 320.

This is frequent on pasture ground on the Neilgherries, but is far from being a conspicuous plant, its pale yellowish green flowers resembling the herbage among which it grows. The fleshy processes in frontier the column are particularly large and conspicuous in this species.

924. HABENARIA RARIFLORA. (A. Richard) leaves oblong lanceolate acute plicate, occupying the lower part of the stem: stem slender 1-2 flowered: flowers long peduncled bractiate: bracteas convolute oval acute, usually shorter than the peduncle: petals oval oblong acuminate, with a, longer, linear apendage; lip three parted, lateral segments the longest, linear subulate somewhat spreading; spur longer than the ovary, processes, of the stigma, long obtuse. *A. Richard Annal des. Sciences* 15, *p.* 70.

This species I have only once met with on the Neilgherries, whence Richard received his specimen, on clifts at Kaitty Waterfall. My figure is from a specimen found on the Pulney mountains where it abounds. This is the only described Indian species, referable to Lindley's "Erostrate" division, having the upper sepal largest, and the anterior segment of the petals longer and narrower than the posterior.

925. HABENARIA LONGICALCARATA. (A. Richard) radical leaves numerous, oblong elliptic acute: upper leafless part of the stem clothed with the sheaths of numerous depanperated leaves, flowers 1 or 2 large, long peduncled; bracteas convolute, oval acuminated, length of the peduncle: sepals diverging, petals erect lanceolate; lip trifid, middle segment lanceolate narrow; lateral ones broad truncate crenate; spur very long, two or three times the length of the ovary and peduncle. *Richard, l. c. slightly abridged.*

This drawing was made on the Pulney mountains at the same time with the preceding. There I found the plant very abundant, on the Neilgherries it is comparatively rare.

926. HABENARIA CRINIFERA. (Lindley) radical leaves oblong lanceolate, spike many flowered: bracteas acuminate, about one-third the length of the ovaries: lip 4 times longer than the sepals, unguiculate at the base, limb 4 parted lobes much acuminated upper sepal and petals galeate; spur curved, compressed, clavate, longer than the lip. *Lind. l. c. p.* 323.

I am uncertain about the exact station whence this specimen was obtained. Lindley's specimens are from Ceylon.

927. HABENARIA MONTANA. (A. Richard) stem erect scaly at the base: leaves sheathing, oblong lanceolate acute, subplicate, 4 or 5 perfect, approximate, the rest passing into long lanceolate very acute sheathing scales: raceme few (4-5) flowered lax: bracteas oblong linear, very acute, shorter than the very long ovary: sepals glabrous; lip three cleft, middle lobe lanceolate acute, lateral ones broader, truncated, irregularly cut on the margins, stigmatic processes obtuse short: spur longer than the ovary. *Richard l. c. pg.* 73.

Pulney mountains. This species I have not yet met with on the Neilgherries whence M. Richard had his specimens, but think there can be no doubt of the identity of the two plants. 1st July.—While this sheet, was passing through the Press, I found it at Kaitty waterfalls, but only coming into flower.

928. ATE VIRENS. (Lindley l. c. pg, 326.)

This is the only species of the genus and was separated from *Habenaria* principally on account of the curious tooth rising from the orifice of the spur, (figures 2 & 4) combined with the unusually developed sterile stamens (see figures 2 & 4) and some difference of habit. I have only met with it on the Pulney mountains, where I found it in considerable abundance flowering during the rainy and cool season, and on the Sheramullies near Dindigul growing among long grass.

EXPLANATION OF PLATES.

VOL. III.—PART III.

931. Vanilia aphylla ? (Blume, Lind.) leafless, peduncles 3 (or many) flowered : limb of the lip undulated obtuse bearded in the middle : anthers two-lobed, fruit cylindrical (insipid ?) *Lind. l c. p.* 436.

Travancore near Trevandrum, climbing among bushes. Dr. Lindley refers to this plant in his remarks under *V. aphylla* but seems doubtful of their being identical, a point which my imperfect specimen did not enable him to clear up. At first he seemed to have considered it distinct as he has marked a specimen in my Herbarium *V. Wightii*, but, on reconsideration changed his mind and published the species under the name here adopted. The numerous flowers and acute not obtuse limb of the lip seem to indicate that his first opinion was correct, but that point I leave for himself to decide.

932. Vanilla Walkeriæ (R.W.) leafless, peduncles many flowered : " lip and petals much waved delicately transparent" and like the sepals marked with a deep green costa ; lip slightly bearded; anthers 2-lobed ; fruit cylindrical.

Ceylon.— For this very characteristic drawing I am indebted to Mrs. Colonel Walker. It is accompanied by the following note written on the margin. " The leafless Vanilla alluded to by Colonel Walker, (in a letter to me). The original drawing was sent three years ago (1834 ?) to Dr. Graham, by whom it was sent to Dr. Lindley who pronounced it a new species of Vanilla. I am anxious to get the flower again to make a better drawing, as I think I have improved a little since this was drawn, and also understand the structure of Orchideœ better than I then did.

" Flower inside pure white : labellum and petals much waved and delicately transparent, sepals striated, outside tinged with fawn colour, a streak of deep green in the centre, which the petals also have, though neither so broad nor so strongly coloured."

This species seems very nearly allied to the preceding but differs in the petals being much more waved ; the lip being less distinctly three-lobed and sparingly bearded toward the base. Should they, on better acquaintance, prove the same species I trust this name will be retained in preference to Dr. Lindley's MS. name, the compliment being so highly merited by that most accomplished lady by whose admirable pencil the Flora and more especially the Orchideœ of Ceylon has been largely and most exquisitely illustrated.

Judging merely from the brief character given, I can scarcely hesitate in considering both distinct from Blume's plant. Fearing, however, that Botanists more intimately acquainted with the order might consider these two identical, this plate is given extra to the regular number. The figure is copied from a tracing not from the finished drawing.

1 flower seen from below—2 lip side view—3 front view,—4 column—5 anther case—6 anther case with its contained pollenia—7 front view of the column with the anther case raised to show the pollen—8 side view of the same—9 seed vessel.

933. 34. Clematis Gouriana (Roxb.) climbing : leaves pinnate or bipinnate ; leaflets ovate-lanceolate, acuminated, cordate at the base, 3-or obscurely 5-nerved, entire or with a few coarse serratures : young branches angled, and peduncles, and oblong achenia pubescent : sepals revolute. *W. and A. Prod. p.* 2.

This beautiful species flowers during the cool season. At this time, January, it is in full bloom in the jungles below Coonoor, where it may be seen climbing to the tops of the highest trees completely covering them with such a profusion of white flowers as almost to conceal the tree that supports them. In Mysore it is of frequent occurrence in the dense thickets surrounding most of the hamlets of that province.

935. Clematis Wightiana (Wall) climbing : leaves pinnate ; leaflets not wrinkled, very villous and soft on both sides, coarsely serrated, cordate at the base, palmately 3-lobed, the middle lobe the longest or divided again in 3 ovate-lanceolate segments : young branches, peduncles, and flat, achenia, pubescent, sepals ovate, outside very pubescent inside glabrous : filaments hairy.— *W. and A. Prod. p.* 2.

This species is less frequent than the preceding, but is abundant among the brushwood of clumps of jungle about Ootacamund : also on the road side above Kaity and on that leading from Southdown round the foot of Elk Hill. In the latter station I met with it in the greatest perfection. It is readily distinguished by its soft almost woolly pale green leaves.

936. Anemone Wightiana (Wall) clothed with silky hairs : leaves on very long petioles, tripartite ; divisions very deeply 3-cleft ; segments cuneate deeply 3-lobed ; lobes cuneate, irregularly inciso-serrated : involucral leaves subsessile, deeply 3-cleft : divisions 3 cleft ; segments linear-oblong, cut and serrated : sepals 6-8, elliptic-oblong : achenia glabrous : style hooked, persistent.— *W and A. Prod. p.* 3.

Frequent in pastures about Ootacamund, but also generally distributed over the hills. Flowering in May and June. Flowers white within purple exteriorly. During these months it is certainly one of the greatest ornaments of the hills. I have not heard of its being applied to any useful purpose, though it may not be destitute of useful qualities as some of them are known to possess these.

937. Ranunculus Wallichianus (W. and A. :) perennial : stem glabrous, diffuse, prostrate, with a tendency to root at the joints, and bearing there several leaves : leaves and petioles hairy ; radical leaves trifoliate, leaflets petioled, 3-cleft, segments somewhat ovate lobed and isciso-serrated : peduncles hairy, scarcely longer than the petioles : petals (yellow) about as long as the calyx : heads of fruit globose : achenia roundish, compressed-lenticular, minutely dotted : tuberculated : style broad, hooked at the apex.— *W. and A. Prod. p.* 4.

This species is generally met with in moist woods, is of a procumbent habit, with small flowers, flowering in May and June after the rains of the South-west monsoon have commenced. It is however found at other seasons, especially during rainy weather. Another species is found at the same season and so much resembling this one, that, to the unpractised eye, it is not distinguishable, but is at once known by the seed, which, in this, is furnished with numerous little tubercles, in that, is quite smooth and without asperities of any kind.

938. M. Nilagirca. (Zenker) Leaves elliptic oblong tapering to a point at both ends, glabrous; stipules and spathes silky: petals about 9, in three rows: stamens numerous, shorter than the column of fructification: ovaries numerous, about 4 ovules in each: carpels warty, one or two seeded.

A large tree found frequent in the clumps of Jungle about Ootacamund. There are several very fine ones in the thicket immediately adjoining the Church the branches of one or two of them overhanging the road.

939. Clypea hernandifolia. (W. & A.)—Leaves ovate, rounded or scarcely truncate at the base, mucronulate; upper side glabrous, under slightly hairy: panicles about equal to the petioles, umbelliform; rays umbelliferous; pedicels very short: polleniferous ring 6-celled.—*W. & A. Prod. p.* 14.

Frequent twining among underwood, in the clumps of jungle about Ootacamund, particularly in low moist situations—It is equally frequent in similar situations on the Pulney mountains, but also occurs on the plains in moist shady jungles.

940. Berberis (Mahonia) Leschenaultii (Wall) —Leaves pinnate; leaflets about six pair, ovate, nearly equal in size, slightly cordate at the base, repand with 6 8 thorny teeth at each side, about 5-nerved at the base; lower pair of leaflets close to the stem: racemes elongated, slender; bracteoles at the base of the pedicel oblong, obtuse: petals with two distinct glands: filaments without teeth: berry globose, crowned with the evident style and stigma.—*W. and A. Prod. p.* 16.

As this is a true congener of Nuttal's genus *Mahonia* I preserve that as a subgeneric or sectional name. The plant is found in almost every clump of jungle about Ootacamund, flowering during the Southwest monsoon, but may generally be met with in flower at other seasons though more rarely, the fruit ripens during the dry season and when fully ripe acquires a bluish purple colour.

941. Cardamene Borbonica (Persoon).—Leaves trifoliolate; leaflets hairy on both sides, particularly on the nerves beneath, petioled, ovate acuminated, unequal at the base, irregularly and sharply toothed; terminal one sometimes 3 lobed or divided into 3 leaflets similar to the others: siliqua erect.—*W. & A. Prod p.* 20.

942. Hydnocarpus alpinus (R. W)—Sepals all equal reflexed: petals ovate lanceolate glabrous: scales lanceolate, as long as the petals, ciliated towards the apex: male, stamens 5, filaments much shorter than the petals, glabrous; anthers obtuse: pistil none: female, calyx, corolla, and stamens, as in the male, but the anthers without pollen: style none, stigma peltate 5 parted; the divisions obcordate spreading, crowning the ovary.

A large ramous tree, 70 to 100 feet high, not unfrequent in deep moist vallies of the Neilgherry hills, about Coonoor and Kotergherry, usually growing on the banks of streams. Flowering in July and August. Leaves alternate, ovate-acuminate, entire, glabrous; from four to six inches long and from 1 to 2 inches broad, at first red, afterwards deep green: fruit globose, about the size of an apple, clothed with short brown tomentum: seeds enclosed in a white fleshy pulp: testa dark coloured hard: embryo enclosed in albumen: cotyledons, foliaceous cordiform; radicle elongate pointing to the hilum.

H. inebrians (Vahl) Sepals unequal, the three inner ones longer: petals broad ovate, fringed with soft white hairs: scales broad ovate, about half the length of the petals, densely hairy: stamens as long as the petals, filaments subulate; anthers broad reniform: pistil none: female as in the male, anthers without pollen.—*W. & A. Prod. p.* 30 *Wight's Illust.* 1 *tab.* 16.

A tree of moderate size frequent near the coast in Malabar and Ceylon, flowering at all seasons. Leaves alternate, ovate, acuminate, glabrous, crenulately serrated about 5 or 6 inches long and 1 to 2 inches broad: racemes axillary, short, few-flowered: fruit globose many-seeded.

943. Viola Wightiana (Wall.) stoloniferous, slightly hairy: leaves cordate-ovate, crenated: sepals lanceolate: somewhat acute: spur short, very blunt: torus flattish: style attenuated downwards, stigma rostrate, convex but not hooked, neither margined nor papillose: fruit globose.—*W & A. Prod p.* 32.

A humble plant common on the Neilgherries, flowering at all seasons. In general appearance as well as in Botanical characters very nearly allied to *V. odorata* but at once, in the growing plant, distinguished by its being destitute of its sweet scent.

944. Drosera Burmanni (Vahl:) stemless: leaves all radical, obovate-cuneate, sessile, veins reticulated; scapes erect, and the calyx glabrous: seed coat not arilliform.—*W. & A. Prod. p.* 34.

A low growing stemless plant, inhabiting swampy ground. On the hills it is usually to be met with in flower at all seasons, but in greatest perfection during the summer months. The clump of plants represented were selected to show the manner of its growth, but unfortunately were unavoidably not taken at the best season and do not therefore show it to the best advantage, though it conveys a good idea of its habit as seen growing.

945. Parnassia Wightiana (Wall.:) leaves broadly cordate-ovate or slightly reniform; sinus slightly rounded: bractea like the leaves, embracing the scape: petals obovate-oblong, their lower half having the margin cut into numerous slender linear simple or forked segments resembling a fringe; unguis very short, broad and cuneate: sterile stamens about as long as the fertile, cleft upwards into 3 5 stout horn-like segments that are glandular at the point.—*W. & A. Prod. p.* 36.

A low growing herbaceous plant abounding in almost every swamp which, during the rainy season, they ornament with their numermous rather showy flowers, in general appearance somewhat resembling Butter cups, but differing in having the flowers pure, white in place of yellow, the prevailing colour of Ranunculus. In *Parnassia palustris* there are four stigmas and 4 lines of seed within the ovary in this there are only three, this, independent of other marks, affords a certain and easily observed distinction between these otherwise very nearly allied species.

946. Polygala arillata (Ham.:) shrubby, branches pubescent: leaves oblong, acuminated, on longish petioles, puberulous beneath: racemes lax, many-flowered, terminal or opposite to the leaves and about as long, drooping: bracteoles caduceus: alæ obovate, obtuse, tapering downwards, glabrous: carina cristate: capsule reniform, retuse, coriaceous: seeds globose, smaller than the large caruncutus.—*W. & A. Prod. p.* 39.

A handsome ramous leafy shrub, varying from 6 to 12 and even in favourable situations, 20 feet high, found growing in shady woods usually near water. Flowers yellow racemose, racemes erect or scarcely drooping; seeds enclosed in a large scarlet caruncu-lus, leaves deep green from 4 to 6 inches long, and about 2 broad, acuminated, strongly nerved, glabrous or sightly puberulous beneath.

947. STELLARIA MEDIA (Smith) stems procumbent with an alternate line of hairs on one side: lower leaves ovate, upper ones lanceolote: petals deeply divided: stamens 5-10: capsules deeply divided, scarcely longer than the calyx.—*W. & A. Prod. p.* 42.

This is a very common plant about villages and corn-fields but I suspect has been introduced with European seed along with the following and with *Spergula arvensis* which is now as common a weed in Ootacamund as in European corn fields.

948. CERASTIUM VULGATUM (Linn) stems, leaves and calyx, covered with a roughish viscid pubescence: stems flaccid, angled: leaves ovate or oblong, lanceolate, with a short mucroniform attenuation: flowers much shorter than the pedicels, in a small compact somewhat dichotomous panicle: petals scarcely longer than the oblong-acutish sepals: capsules ovoid, scarcely so long as the calyx; teeth 10, rolled backwards, their margins flat.—*W. & A. Prod. p.* 43.

Like the preceding as common a weed in the gardens of Ootacamund as in those of Europe.

949. ARENARIA NEILGHERRENSIS (W. & A.) stems elongated, much branched, procumbent, with an alternate line of hairs on one side: leaves distant, obovate, mucronulate, glabrous, with minute whitish points, 1-nerved; margins thickened, nerve-like, ciliated towards the petiole: flowers axillary, or in terminal sub-dichotomous panicles: pedicels viscidly pubescent all round, longish, slender: sepals oblong, acute, with 1 dorsal hairy nerve: margin membranaceous: petals longer than the calyx: styles usually 3 (sometimes 2 or 4): capsules ovate, nearly the length of the calyx.—*W. & A. Prod. p.* 43.

950. MALVA NEILGHERRENSIS (R. W.) annual hairy all over; branches diffuse somewhat angular: leaves long petioled suborbicular cordate, 5-lobed; lobes ovate obtuse doubly serrated: flowers numerous, densely aggregated in the axils of the leaves: involucel of three narrow linear lanceolate acute leaflets, shorter than the calyx: calyx somewhat inflated 5 clif, lobes ovate acute 3 nerved: coralla rose coloured, nearly twice the length of the calyx, petals deeply emarginate, carpels about 10, corrugated on the angles, pubescent.

Kottergherry, in cornfields and about villages, in the rich soil surrounding the latter very luxuriant: flowering during the rainy season. The larger leaves are from four to six inches across, pubescent above, hairy beneath, supported on a hairy petiol from four to six inches long. Flowers very numerous, small in proportion to the size of the plant, forming dense clusters, or short racemes in the axils of the leaves. Involucral leaves slender, clothed with long hairs, acute, calyx considerably inflated, cleft about half way down, hairy, lobes ovate, obtuse, three nerved and, viewed by transmitted light, finely reticulated between; after drying translucent and chartaceous: capsule white, triangular, corrugated along the exterior angles, pubescent. These last points are not shown in the drawing, the figures having been taken from too young specimens.

This species, comes nearest to *M. verticellata* a Chinese plant, bnt, so far as can be made out from written characters, seems amply distinct.

951. ABELMOSCHUS (HYMENOCALYX) ANGULOSUS (Wall:) stems herbaceous, not prickly: leaves on long petioles, cordate, 5-lobed, unequally toothed; lobes ovate acuminated; upper side pubescent with short softish hairs, under slightly tementose: pedicels rigidly aud horizontally hairy, abont as long as the petioles: involucel 3-5 leaved, leaves cohering splitting spath-like: calyx much shorter, and concealed within the involucel, membranaceous: capsule ovoid, acute, very hispid.—*W. and A. Prod. P.* 53.

This is a considerable, erect growing, shrub, frequent in moist soil in clumps of Jungle on the Neilgherries: in favourable situations, as on the banks of streams, attaining the height of from 10 to 15 feet. It is to be met with in flower at all seasons, but perhaps in greatest perfection during the earlier months of the year, contrary to the general character of the genus the flowers are white or very pale yellowish.

I have altered that part of our specific character which refers to the involucel and calyx which, as given in the Prodromus, is incorrect.

952. MONOCERA MUNROII (R. W. *Ill. Ind. Bot.*) glabrous, leaves ovate lanceolate, acuminated slightly serrulate on the margin, without glands on the under surface: racemes about the length of the leaves many flowered, flowers drooping: sepals lanceolate acute: petals not unvolute on the margins: anthers glabrous, apex, at length reflexed: ovary elevated on the torus very hairy: fruit about the size of an olive. —R. W.

On the slopes of the large ravine below Coonoor flowering in November and December, covered with fruit in February, apparently nearly full grown. A large and handsome tree, which I should estimate at not less than from 60 to 80 feet in height, with a fine umbrageous head, every branch of which, when I gathered the specimen here represented, was covered, like it, with pure white flowers, forming a rich contrast to the deep green foliage. Captain Munro first found it in Coorg and sent me the specimens from which the above character was taken. It is certainly very closely allied to *M. glandulifera*, but differs in technical characters, and as I have never seen that tree in such a state as to admit of their accurate comparison, I am still uncertain whether or not they ought to be united.

953-54. GOMPHANDRA POLYMORPHA. (R. W) diæcious glabrous, leaves petioled, membranaceous, glaucous beneath, from oblong to obovate lanceolate acuminated: cymes axillary, solitary or in paris, about the length of the petiol; male, many flowered, female 2 or 3 flowered: calyx entire, minutely 4 or 5-toothed: petals 4 or 5 united below, glabrous: stameus projecting: fruit oblong, crowned with the persistent stigma.

This large shrub is found in the dense clumps of jungle about Coonoor, the Avalanche and elsewhere, flowering in March and April, and, usually, the female at the same time bearing ripe seed, showing that it is in flower most part of the year. The plant here figured approaches most nearly to my variety *G. angustifolia.* Ill. Ind. Bot. p. 103, but does not seem quite identical. I cannot, however, find characters to distinguish it as a species. It seems rather to be an intermediate form between that variety and *G. coriacia*, differing from the latter in being pentandrous, not tetrandrous, but in other respects, agreeing, upon the whole, better with *coriacia* than *polymorpha.*

955. STEMONURUS FŒTIDUS (R. W.) leaves elliptic oblong acuminated venous, pubescent beneath : flowers terminal, small, cymose-panicled, every where clothed with short hairs : stamens glabrous : style about the length of the ovary : drupe succulent olive-shaped, purple when ripe, nut thin.

Neilgherries in woods, and thickets : flowering during the rainy season, but may generally be met with in both flower and fruit.

This, when growing in favourable situations, becomes a large umbrageous tree ; the leaves are of a deep green colour, and when young marked with prominent veins to an extent far beyond what the draftsman has here represented. From what cause, I am unable to state, the flowers are often all males, for a long time I had specimens of this tree in my herbarium before I got them in sufficient perfection to enable me to make out its genus. The leaves vary greatly in size, I have seen them upwards of seven inches long and three broad, but the usual size is from 4 to 6 by about 2 broad. The flowers are very numerous small, yellow, clothed with short hairs both outside and in, and during the heat of the day exhaling the most abominable smell of carrion. The fruit is about the size and shape of an olive, pulpy when ripe, and the stone so thin and soft that it can be easily cut with a knife.

BURSINOPETALUM (R.W.)

Flowers bisexual superior. Calyx 4-toothed. Petals five, furnished at the apex with an inflexed bidentate process, estivation valvate. Stamens 5, anthers 2-celled introrse. Ovary adherent, one-celled, with a single ovule pendulous from near the apex. Drupe ovoid umbilicate, one-celled, one-seeded, endocarp deeply inflexed so as neartly to divide the cell into two compartments. Embryo small, eccentrc, immersed in the apex of the fleshy albumen ; radical very long superior.

A large umbrageous tree with very dark green, almost purplish foliage: leaves alternate, long petioled, oblong elliptical, acuminated at both ends, from two to three inches long by about one and a halfbroad ; glabrous coriaceous. Flowers,terminal cymosely panicled, small in proportion to the tree, calyx conical, adhering to the ovary, limb short, cup-shaped 5-toothed : petals five, ovate pointed, very coriaceous (whence the name, leathery petals) each furnished within at the point with a little bidentate hook. Stamens five alternate with the petals, filaments short compressed, anthers large, cordate ovate, obtuse two-celled introrse attached near the base. Ovary enclosed within the tube of the calyx and adherent, covered by a thick fleshy disk : style short : stigma obtuse. Fruit drupaceous, about the size of a small plumb, ovoid, the apex marked by a broad scar where the flower had separated. Putamen hard, deeply inflexed on one side. Embryo small, eccentric, immersed near the apex of a copious fleshy albumen, the radicle, very long, in proportion to the cotyledons, pointing towards the hilum or apex of the seed.

This genus differs from all the rest of the order in its peculiar seed, and from each by many characters. It will form with Alph. De Candolle's genus *Hypocarpus*, a new section of the order distinguished by their inferior ovary.

956. BURSINOPETALUM ARBOREUM (R. W.)

On the slopes of the hills at Sispara in dense forests flowering in April and May, at the same time bearing ripe fruit In February, when coming into leaf and several weeks before the expansion of the flowers, the foliage is of a lively green colour, afterwards it deepens so much as almost to to acquire a purplish tint.

957. CITRUS VULGARIS (Risso.) Leaves elliptical acute or acuminated, slightly toothed : petiol more or less winged, flowers large white : fruit orange coloured, roundish or slighly elongated or depressed : rind with concave vesicles of oil, pulp acid or bitter.

Neilgherries, on the slopes below Kottergherry and Coonoor ; in the opinion of the Collector quite wild but possibly raised from seed accidentally dropped by travellers.

I am doubtful whether this is the true *C. vulgaris*, some points of the character are at variance with the figure, but none of much importance and without better specimens, for comparison, of the true *C. vulgaris* than I possess, I could not venture to found a distinct species on these differences.

958. CITRUS LIMETTA (Risso) leaves oval or oblong often toothed : petiol more or less winged or margined : flowers small, white : fruit pale yellow ovoid or roundish, terminated by a knob : rind with concave vesicles of oil : pulp watery acid or sweetish occasionally slightly bitter.

Orange valley, near Kottergherry, flowering August and September certainly wild. A low, very ramous erect, thorny, bush covered during the flowering season with a profusion of beautiful fragrant white flowers ; a very ornamental shrub, well deserving a place in the shrubbery, where, judging from what I saw at Kottergherry, it grows freely.

959. HYPERICUM HOOKERIANUM (W. & A.:) glabrous, shrubby, diffuse : stem terete ; young branches compressed : leaves opposite, somewhat distant, oblong, obtuse with a mucro, contracted at the base with a kind of very short petiole ; lateral nerves arching, and anastomosing ; pellucid dots round and oblong, black dots none : flowers (large) clustered at the ends of the branches : sepals roundish-obovate, obtuse,entire, without black dots : petals not dotted : stamens very numerous : styles 5, distinct, overtopping the stamens,shorter than the ovary : stigmas obtuse : captule 5-celled.— *W. and A. Prod. p.* 99.

Neilgherries in swampy ground, flowering in Feb , and March,a shrub with long slender branches, distichous ovate obtuse leaves, perforated with numerous pellucid points, the branches terminated by clusters of large yellow flowers, which, when they first open are nearly saucer-shaped from the overlapping of the edges of the petals. It is at once distinguished from *H. Mysorense* by the form and direction of the leaves which are distichous in this, and decussate, or crossing and spreading in four directions, in that.

960-1. GARCINIA PAPILLA (R. W.) diœcious leaves short petioled, obovate, obtuse : flowers axillary, nearly sessile, aggregated in the stameniferous, solitary or three together in the fructiferous plant : stamens numerous, filaments united, forming a thick short androphore without a sterile style : anthers 2-celled dehiscing longitudinally : ovary globose 8-celled : style a thick short fleshy body, crowned with 8 spreading starlike persistent stigmas, enlarging with the fruit : fruit ovate, oblong, furrowed, 8 or, by abortion 4 or 6 celled crowned with the greatly enlarged style : seed somewhat triangular, covered with a thin coloured membranous testa.

A diffuse tree, growing on banks of streams near Coonoor also in similar situations at Sisparah. Flowering during the rainy months. This species in general appearance is allied to both *G. Roxburghii* and *G. Cambogia* (the *G.Kydia* W. and A. Prod. not Roxb.) but differs from both in the style, the form, and the peculiar nipple-like prolongation of the fruit, whence the name. This last structure seems confined to this plant and to Roxburgh's G. *Kydiana*, a very distinct species, where it exists in a less degree.

961. MESUA SPECIOSA (CHOISY) leaves long linear-lanceolate subacute : flowers shortly peduncled : petals exunguiculate roundish, regular, mature fruit, four-seeded. *Choisy, in D. C. prod.*

This very handsome tree I found on the Eastern slopes of the Neilgherries, 3 miles below Coonoor, probably at an elevation of about 5,000 feet above the sea.

It is not easy to distinguish the species of this genus. I formerly published a figure of the Ceylon plant under the name of *M. ferrea* and up to the present time thought this distinct. A closer examination however leads me to doubt whether the continental one is different from the insular tree, the more so as the original *M. ferrea* is an Eastern tree, while the *M. speciosa* is from Western India. The distinctions between the two as given by Choisy are that in *M. ferrea*, the petals have a claw or 'unguis' which is wanting in this, and that the fruit in that is one-seeded, while in this four is the usual number.

962. SALACIA MACROSPERMA (R. W.) a diffuse, rambling shrub; leaves oblong, elliptic, acuminated, coriaceous, glabrous: flowers numerous, fasicled, short pedicelled : calyx 5-lobed fringed with rusty coloured hairs : petals ovate, obtuse, broad at the base : ovary 3-celled with 2 superposed ovules in each : fruit irregularly ovate, few-seeded : seed ovoid conferuminate without a conspicuous radicle.

Jungles about Sisparah flowering, and at the same bearing full grown fruit in April.

This species seems nearly allied to my *S. verrucosa* but wants the warty stems, and has a ciliated, in place of glabrous, calyx. The plants, besides, when compared, seem quite distinct, though the differences are not easily stated in words. The structure of the anthers and ovary amply distinguish it from my *S. multiflora* ; in this the anthers open longitudinally, in that transversely : here the ovules are two superposed in each cell, there they are numerous, forming two rows.

963. HIPPOCRATEA OBTUSIFOLIA (Roxb :) glabrous : leaves elliptical, obtuse or acute at the base, obtuse or shortly and obtusely acuminated at the apex, slightly serrated or almost quite entire, very coriaceous: panicles axillary and terminal, thyrsoid, longer than the leaves, terminal ones sometimes much elongated and compound from the abortion of the upper leaves : flowers pretty large : petals lanceolate, much longer than the calyx : ovules 6 in each cell : carpels obovate, emarginated, striated.—*W. and A. Prod. p.* 104.

The specimens from which the accompanying figure was taken were gathered on the eastern slopes of the Neilgherries by the road side from Kottergherry to Matypolium in the beginning of March, but no fruit.

964. SCHMIDELIA RHEEDEI (R. W. *S. Cobbe* partly W. & A.) a diffuse shrub, all the young parts densely villous or tomentose : leaves elliptic, oblong, acute or cuminated, serrated, pubescent above ; at first shortly tomentose, afterwards villous beneath : racemes axillary, solitary or sometimes paired, often longer than the leaves, branched ; rachis hairy : calyx glabrous 4 sepaled, sepals unequal, lateral pair orbicular : petals 4 spathulate hairy with 4 fleshy glands at the base : ovary hairy, minute, style compressed ending in two spreading stigmas, berry two, or, by abortion, one-lobed; lobes obovate obtuse, glabrous: cotyledons. fleshy, foliaceous folded.

Growing in thickets in Malabar and eastern slopes the Neilgherries also on the hills near Coimbatore. The ripe fruit I have not yet found, but presume that it is like the rest, a red succulent bacca. This is distinguished from all other species I have seen by the ramuli and under surface of the leaves being tomentose and by the many branched racemes.

964-2. SCHMIDELIA COBBE (D. C.) leaves trifoliate ; leaflets stalked, ovate or oblong, acute, serrated ; younger ones more or less pubescent above, villous beneath ; older ones more glabrous, but always more or less pubescent : racems axillary, solitary, simple, or sometimes bifid ; rachis pubescent : petals cuneate, emarginate, with a scale bearing a tuft of hairs above the slightly hairy claw, limb glabrous : stamens glabrous : ovary hairy, 2-lobed : style as long as the ovary, glabrous : fruit baccate.—*W. and A. Prod. p.* 109.

This figure of what I esteem the true *S. cobbe* is introduced to show by comparison how perfectly distinct this species is from the preceding with which it has long been confounded. The specimens from which this is taken, were gathered in Malabar and simelar ones in Courtallum.

964-3. MILLINGTONIA PUNGENS (Wall.) leaves simple, coriaceous, lanceolate, acute at the base, quite enire, glabrous on both sides, nerves beneath with a rusty pubescence : panicle rigid, densely covered with a rusty pubescence ; rachis terete ; flowers on the ultimate branchlets of the panicle aggregated : calyx with 3 bracteoles ; sepals unequal, glandularly ciliated : outer petals roundish, concave ; inner ones cleft beyond the middle, equal to the filaments.—*W. and A. Prod. p.* 115.

A large tree very abundant in the woods about Ootacamund—flowering during the warm season—Leaves thick and leathery; Panicles large, terminal, flowers white, the branches of the panicle and the calyx clothed with short, matted rusty coloured hair. Fruit about the size of a pea, dark brown, nearly black, when ripe.

965. VITIS (AMPELOPSIS) NEILGHERRENSIS (R. W.) leaves coriaceous, palmately trifoliolate, slightly mucronately dentate, middle one, broad oval acuminated, lateral ones unequal sided, like the centre one ending in a slender straight acumen : cymes terminal peduncles, longer than the leaves : flowers pentandrous, petals distinct.

This species I found at Kottergherry and Neddawuttum, but at neither place have been so fortunate as to find it in fruit. The under surface of the leaves are sometimes coloured of a deep crimson : those from which the drawing was made were pale whitish beneath.

Dr. Royle has described a nearly allied species from the Himalayas, but which differs in the form of the leaflets, as well as their being deeply serrated, and in having small, short peduncled, cymes. The venation of the leaves also differs considerably and shows at once they are distinct species. These distinctions are drawn from comparison of specimens.

966. Impatiens fruticosa (D.C.) erect, branched: stems glabrous, glaucous: leaves alternate, long-petioled; upper side hairy, particularly on the veins; under tomentose: petioles villous, glanduliferous: peduncles glabrous, shorter than the leaves, dividing into several long 1-flowered pedicels: flowers shorter than the spur: lateral sepals large, concave, roundish-ovate, acuminated: filaments united at the apex: stigmas combined: capsule glabrous, tapering at both ends.—*W. and A. Prod.p.* 137.

This noble species I have only found about Kottergherry and Coonoor, it seems to be in flower the greater part of the year. The specimen figured was gathered in August, and I afterwards found it in full flower in March. It is usually met with on the banks of streams, in clumps of jungle and in such situations I have seen it upwards of 8 feet high, nearly every branch as richly covered with flowers as the figure. This species is well adapted for showing the compound nature of the lateral petals.

967. Impatiens scapiflora (Heyne) glabrous: root tuberous: leaves radical, orbicular, deeply sinuate-cordate, the lobes overlapping, coriaceous; under side paler, marked with numerous coloured nerves: scape bearing a many-flowered raceme, bracteated: pedicels alternate, solitary from each bractea, slender, in fruit becoming deflexed: lateral sepals ovate, small: spur sometimes tumid and inflated, sometimes much elongated: petals 2 lobed; posterior lobe small; anterior elongated, projecting forward.—*W. and A. Prod p.* 137.

This very beautiful but unusual form of Balsam occurs in great profusion in dry pastures all over the upper range of Hills, but is most plentiful about Dodabet, flowering from July till October or November, but is in greatest perfection in September when it is most conspicuous. In this the lower half of the compound petals is lobed, affording a useful specific character.

968 Impatiens modesta (R. W.) leaves few, radical, broadly cordate-ovate, or sub-orbicular, hairy above; glabrous and pale shining glaucous beneath: scape erect racemose many flowered; flowers small, rather long pedicelled, from the axil of a small subulate bractea: upper sepal broad obovate or suborbicular, the lateral ones narrow lanceolate or subulate incumbent on the upper; lower shorter than the petals with a short obtuse spur: petals declining, 3 lobed (lower petal two cleft upper entire) hairy near the attachment: capsule glabrous ovate. (R. W. *Madras Journal.*)

Damp woods about Pycarah, flowering July and August. Plant from 8 to 12 inches high, leaves from 1½ to 2 inches broad flowers from 10 to 20. Petals approximated and, until closely examined, the whole flower has much the appearance of an Orchidacious plant. This description is taken from plants growing in shady woods on the top of the Hills at Shevagherry near Courtallum, but quite corresponds with the Neilgherry plant.

969. Impatiens rufescens (Benth.) stems erect, branched, jointed, glabrous: leaves shortly-petioled, from elliptic and slightly cordate to obovate, sharply serrated; upper side hispid with short callous hairs; under glabrous and whitish, except the nerves which are hairy: pedicels solitary or in pairs, about the length of the leaves, villous: posterior sepals much smaller than the petals; anterior saccate, without a spur: anterior lobes of the petals oblong, protruded, much larger than the short roundish posterior one: capsule oval, glabrous.—*W. and A. Prod.p.* 138.

Frequent in swampy grounds and on the marshy sides of small streams, flowering during the rainy season, but may be met with in flower the greater part of the year near springs, where the ground is always wet. This species affords an example of the great inequality in the size of the two halves of the compound petals and of a saccate not spurred sepal.

970. Impatiens inconspicua (Benth.:) branched, diffuse, glabrous: leaves opposite, nearly sessile, from oval to linear-lanceolate, slightly cordate at the base, remotely and slightly bristle-serrated; under side pale, glaucous: pedicels solitary or several together, shorter than the leaves, pubescent: lateral sepals nearly equal to the flowers, linear; lower one gibbous without a spur: capsule oval, glabrous, few-seeded.—*W. and A. Prod. p.* 139.

This minute and little known species I have only found on Dodabet and on the top of the hill immediately beyond and to the south of Elk Hill: in the latter station among craggy exposed rocks. It flowers in November, and, but for its abundance where it does grow, would indeed be truly inconspicuous. This like the preceding, is distinguished by its unequal, petals and saccate not spurred sepals.

970. Impatiens Leschenaultii (Wall.:) suffruticose erect, branched; branches ascending, almost glabrous: leaves alternate, short petioled, ovate lanceolate, acuminated, acute at the base, glabrous, with bristly incurved serratures: petioles without glands: pedicels solitary, shorter than the leaves: lateral sepals minute, caducous: spur slender, tapering, rather longer than the flowers, curved upwards: capsules small, drooping, glabrous, ovate, pointed, few-seeded.—*W. and A. Prod. p.* 136.

This is one of the most common species on the Hills, being found in every thicket and in flower at all seasons. It is quite a shrub in its habit and often attains a considerable size. In shady woods and moist soil I have seen it fully 8 feet high. It is so nearly allied to *I. latifoila* as to be scarcely distinguishable by technical characters, but, when seen growing side by side, they are readily recognized. The flowers of this are pale rose colour or nearly white; those of *I. latifolia* pink and considerably larger.

971 Pittosporum tetraspermum (W. & A,:) leaves elliptic-oblong, acute, coriaceous, glabrous, margins slightly waved and recurved: flowers in a terminal sessile umbel; peduncles aggregated, usually 1-, rarely 2-flowered, pubescent: sepals pubescent, lanceolate, acuminated, minute, many times shorter than the corolla: petals linear: ovary hairy: style glabrous: stigmas 2-lobed: ovules 2 in each cell: capsule nearly globose, scarcely compressed, 4-seeded; valves thick coriaceous.—*W. and A. Prod. p.* 154.

Ootacamund in clumps of jungle: a large shrub flowering in February and March. The figure differs in two points from the character which was taken from dry specimens. The stigma is 4, not 2-lobed, and the capsules are somewhat compressed. The lobes of the stigma are at best so minute that a mistake might easily have happened, and the capsules are at first perfectly globose but become flattened when quite mature. The dark streak on the longitudinal section of the seed does not represent the embryo which the draftsman has failed to detect, being very minute and situated at the base of the seed. *P. Neilgherrense* is also found in the jungles about Ootacamund and Pycarrah; a third undescribed species is found at Sisparah, all of which are in flower at the same time

972. TURPINIA NEPALENSIS (Wall.:) leaflets 3-5, oblong lanceolate, acuminated, coriaceous : branches of the panicle opposite : styles almost quite distinct : ovules 3, or occasionally 2, in each cell : berry (immature) scarcely fleshy, marked on the outside above the middle with 3 small distant points (the remains of the styles), about 3-seeded : seeds pendulous : radicle superior.—*W. and A. Prod .p.* 156.

A very common tree on the Hills, and to be found more or less perfectly in flower at all seasons, but in greatest perfection in May and June. It seldom attains a considerable height ; but its branches when it has room to spread, extend on all sides forming a fine head.

973. EUONYMUS CRENULATUS (Wall.:) leaves elliptical, obtuse, short petioled, crenulate-serrated towards the apex, coriaceous, convex and bullate above : peduncles solitary, shorter than the leaves, once or twice dichotomous, few-flowered : petals 5 (or occasionally 6) orbicular : stamens very short ; anthers opening transversely : margin of the torus free : style very short : stigma blunt, somewhat umbilicated : capsules turbinate, 5-celled, lobed at the apex : seed solitary in each cell ; hilum truncate, without an arillus.—*W. and A. Prod. p.* 161.

This plant often attains the size of a considerable tree ; but more commonly it occurs as a large and often very handsome shrub, on account of its numerous ascending branches covered with abundance of bright shining foliage. The flowers, as seen on the growing plant, are but little conspicuous being small and hid by the profusion of leaves. They are of a dull purple colour, and not generally so numerous as on the specimen selected for representation. In the above character of the species, the seed are said to be without an arillus. This is not quite correct. The arillus is present but much smaller than usual in the genus. One of the ovules only in each cell usually matures, the remains of the other is shown in figures 8 and 9, sometimes, however, they both ripen.

The plant represented No. 214, under this name, I now find, if not actually, a distinct species, is at least a variety, departing in appearanee, so widely from the true plant, that it becomes necessary to devote a plate to the illustration of the more usual and regular form. The above gives a very good idea of the plant, but differs from the character in having entire not crenulate leaves. This is a frequent variation occurring even in different leaves of the same specimen. My first thought on comparing the two drawings as was to consider them distinct species and give the older figure a new name. On minutely comparing, however a number of specimens, I do not find the actual as differences so great of the drawings would lead one to suppose, depending as they do, mainly, on the inflorescence ; in the one the cymes are contracted, few flowered, in the other lax and many flowered.

Had I the fruit of 214 I might be able to determine, beyond all doubt, whether I ought to consider them species or varieties, but not without ; I therefore in the meantime feel that I must consider the plants represented in these two drawings as extreme forms of the same species. The leaves of 214, and being serrated, while those of 973 are quite entire : the more usual form is between the two. The greater size of the leaves of 214 is partly the fault of the artist. The great difference in the inflorescence is not however so easily accounted for, but still it is only, so far as yet, known a solitary character, for I do not know the tree, except from specimens. In my present state of ignorance therefore I call 973. *E. crenulatus* and 214 *E. crenulatus* var *laxiflora.*

974, see below, 978 *bis*,

975. MICROTROPIS MICROCARPA (R. W.) an erect shrub : leaves opposite ovate, mucronate, entire, glabrous, shining above, glaucous beneath : petals obovate cuniate broad at the apex, cymes axillary, dichotomous shorter than the leaves, capsule subcylindrical, slightly attenuated at the base, pointed : testa of the seed of a rusty brown colour.

Kottergherry, in dry jungles, flowering July and August, at the same time bearing clusters of ripe seed. The shrubs from which the specimens were taken were 8 or 10 feet high, branches, ascending, leaves ovate from 12 to 15 lines long, 4 to 6 broad. The flowers had not quite opened at that time and the open flower, figure 2 was opened artificially. No. 1 shows the unopened corolla after the removal of the calyx.

976. MICROTROPIS OVALIFOLIA (R. W.) a large somewhat diffusely ramous shrub : leaves oval, rounded at both ends : cymes axillary, trichotomous shorter than the leaves : petals orbicular, fruit oblong oval, obtuse: testa of the seed crimson.

Ootacamund, frequent in moist woods, flowering in February and March, but may generally be found in flower at other seasons.

In their outline the leaves are very constant, but are often much larger than those represented, being sometimes nearly 2½ inches long by 1½ broad. These two are very nearly allied species but, I think, quite distinct.

977. MICROTROPIS RAMIFLORA (R. W) a moderate sized tree : leaves subsessile, slightly cordate at the base obovate obtuse or slightly emarginate, reflexed, very coriaceous : flower subsessile, aggregated in dense clusters along the naked branches : petals somewhat obovate : fruit oblong obtuse : testa of a redish orange colour.

Ootacamund in thick jungles. This is the largest species I have yet met with, being quite arborious. The leaves are from two to three inches long by about 2 broad, exceedingly hard and coriaceous. When in full flower, all the younger branches are as densely covered with flowers as in the specimen figured.

There are three or four other species found on the hills, two referrible to the ramiflorous division, and another, or perhaps, two, to the cymose.

978. RHAMNUS HIRSUTA. (W. & A.:) young branches pubescent, spinescent ; older ones glabrous with a white cuticle : leaves opposite or alternate, ovate, or oblong lanceolate, with a short sudden acumination, serrulated, membranaceous, nearly glabrous above beneath hairy, perticularly on the nerves and veins; pedicels from the base of the young shoots, 3-6 together, pubescent, as long as the petiole : calyx 4-cleft : petals obovate, obtuse, entire, flat : ovary 2-3 celled : styles 2-3, connected to the middle, then diverging ; the upper part jointed with and deciduous from the persistent lower half : fruit 2-celled : seeds plano-convex, with a deep furrow at the base on the outer convex side.—*W. and A. Prod. p.* 165.

A considerable shrub rather extensively distributed on the Hills, but not so common on the higher ranges as lower down. The specimen delineated supplies a somewhat flattering likeness as it usually presents a rather scraggy appearance. It is to be met with in a flower at almost all seasons, but is not so free as the other in bearing fruit.

978. (*bis*) GOUANIA LEPTOSTACHYA (D.C.:) branches glabrous : leaves ovate, acuminated, slightly cordate at the base, coarsely crenate-serrated, glabrous : racemes interrupted, axillary or in terminal panicles, elongated, when young, pubescent, afterwards glabrous: flowers on very short pedicels, polygamous : disk glabrous, stellate ; accessory angles partly adnate to the calycine lobes, free and acuminated towards the two-horned apex : fruit glabrous, shortly winged,—*W. and A. Prod. p.* 166.

An extensively straggling climbing shrub, found in great abundance along the road between Burliar and Coonoor, flowering towards the end of the year and maturing its fruit during the hot season. We formerly supposed this species confined to the Northern parts of the Peninsula, a point on which, it now appears we were mistaken.

979. SOPHORA GLAUCA (Lesch.) shrubby : leaflets 19-23, elliptical, mucronate, upper side glaucous and velvety, under villous : racemes terminal, crowded.—*W. and A. Prod. p.* 179.

Very abundant on the Neilgherries, in flower at all seasons. A handsome flowering shrub from 6 to 12 feet high, all the green parts except the upper surface of the leaves clothed with soft pubescence, flowers pale purple : seed oval, polished very hard.

980. CROTALARIA BARBATA (Graham :) herbaceous, erect, densely clothed with dark brown hairs: stipules minute, inconspicuous : leaves oblong-lanceolate, bluntish ; racemes terminal, elongated ; flowers few, distant : calyx a little shorter than the corolla, deeply 5-cleft, very hairy ; segments slightly falcate : legume glabrous, stalked, 2-3 times the length of the calyx, obovoid : apex of the style and stigma woolly. —*W. and A. Prod. p.* 181.

Not unfrequent in woods about Ootacamund, in moist soil on the banks of streams. A large species conspicuous on account of the large size and bright yellow colour of its flowers. It is very readily distinguished by the universal hairiness of all the young parts. Among bushes where it obtains support, it often attains the height of 10 or 12 feet. The whole plant turns black in drying.

981. CROTALARIA FORMOSA (Graham ! :) erect, branched, all over villous except the upper side of the leaves : stems terete : stipules minute, setaceous, reflexed : leaves cuneate, obovate, obtuse, glabrous on the upper side, villous beneath : bracteas lanceolate, acuminated, lower ones without flowers : flowers in a dense raceme at the extremities of the bracteated elongated branches : bracteoles setaceous, on the middle of the pedicels : calyx villous ; legum oblong, borader upwards, glabrous, about 4 times the length of the calyx, many-seeded.—*W. and A. Prod. p.* 186.

Frequent in pasture grounds on the hill sides, flowering in greatest perfection during the months of February and March. It is an erect shrubby species, rising in favourable situations to the height of between 4 and 5 feet, but is generally met with much lower. The leaves are a fine pea green colour above, clothed with white adpressed hairs beneath, flowers pale yellow streaked with brown.

982. CROTALARIA WALLICHIANA (W. & A.:) herbaceous, erect, much branched, young branches irregularly and rather bluntly angled, with the racemes and under side of the leaves densely pubescent : stipules lunate, transverse, recurved : leaves oval, glabrous above, marked beneath with rather prominent nerves : racemes terminal and leaf-opposed, many-flowered : bracteas subulate, reflexed, small : pedicels elongated, longer than the calyx : bracteoles very minute, setaceous, about the middle of the pedicel : calyx smaller than the corolla, densely pubescent ; legume clavate-oblong, stalked, softly pubescent, many-seeded.—*W. and A. Prod. p.* 187.

Abundant in woods and thickets about Ootacamund, preferring a rich moist soil, and in such situations sometimes, with the support of bushes, rising to the height of 9 or 10 feet. It is in flower at all seasons and is most conspicuous from the size and brilliancy of its flowers. As a species it is perhaps too nearly allied to *C. semperflorens.*

983. INDIGOFERA PEDICELLATA (W. & A.:) suffruticose, procumbent ; branches filiform, sprinkled with short adpressed brownish hairs ; older parts terete; young parts compressed, thickly covered with brown glands : leaves petioled, palmately trifoliate ; leaflets cuneate-oblong ; both sides with short whitish hairs mixed on the under side with glands : racemes almost sessile, somewhat corymbiform, about the length of the leaves : pedicels slender, drooping, 2-3, longer than the calyx : calyx deeply 7-cleft (segments linear and acute), and with the vexillum and keel hirsute and glanduliferous.—*W. and A. Prod. p.* 200.

A low growing procumbent, plant frequent in dry pastures, where it is rendered conspicuous by its bright crimson flowers, which rise above the herbage among which it grows and which conceals the rest of the plant.

984. DESMODIUM RUFESCENS (DC.:) shrubby : branches, racemes, bracteas, pedicels, stipules, petioles, and nerves of the leaves beneath, densely clothed with yellowish-brown tomentum : leaves trifoliolate ; leaflets oval, obtuse with a long bristle ; upper side glabrous ; under densely clothed except the nerves with adpressed silky white hairs, especially when young : stipules caducous : racemes axillary and terminal, many-flowered : bracteas ovate, tapering to a long subulate point, before expansion densely imbricated, soon caducous : vexillum large, obcordate : alæ as long as the broad keel : legume pubescent, about 7-jointed, straight on the one suture, notched into the middle on the other.—*W. and A. Prod. p.* 228.

A low growing shrub, not unfrequent in moist ground among brushwood. On the road side below Coonoor on the Neilgherries, it occurs in considerable abundance, and from that station, the specimen from which the drawing was taken was obtained. It is in greatest perfection during the rainy season, but may generally be met with in flower in the neighbourhood of springs.

985. DESMODIUM STRANGULATUMS (W. & A.) herbaceous, erect ? : branches hairy, somewhat 3-angled, angles obtuse : leaves 3-foliolate, long petioled : leaflets pubescent on both sides, lateral ones obliquely ovate, terminal one rhomboid : stipules scariose, oblong-lanceolate, concave, glabrous: racemes hairy, axillary and terminal, panicled, at first oblong and imbricated with large oblong concave hairy bracteas, afterwards becoming very long and lax, few-flowered : flowers 2-3 together, on long filiform pedicels : calyx campanulate, bilabiate ; upper lip emarginate, under deeply cleft : vexillum obovate ; alæ shorter than the keel : stamens monadelphous from the base to the middle, diadelphous towards the apex : ovary stipitate, about 4-ovuled : legume 2-3 jointed (occasionally from abortion 1-jointed), much contracted on one suture between the joints, even on the other, hispidly pubescent ; joints semi-oblong, nearly equal at both ends.—*W. and A. Prod. p.* 228.

A slender erect growing herbaceous plant, frequenting dark shady woods. It is at once distinguished from all the other peninsular species of the genus, by its deep orange coloured flowers, and the deep divisions of the legume between the seed.

986. SMITHIA BLANDA (Wall) suffruticose, diffuse, every where except the upper surface of the leaves and corolla hairy: leaves abruptly pinnate 3 paired; leaflets linear, elliptic, obtuse, mucronate; glabrous above, hairy beneath: racemes, axillary and terminal: flowers congested towards the apex: calyx 2-lipped, upper lip bifid, under 3 cleft; without pellucid glands or dots. R. W. MSS.

Pycarah in wet swampy ground rare. In the accompanying figures, No. 3 showing a magnified view of the bracts, calyx and stamens, is from a flower picked from the specimen represented. No. 6 showing the calyx and pod belongs to another species, and is introduced partly to show the form of the pod of the genus, partly to indicate a specific distinction, the one being perforated with transparent glands which are wanting in the other. The glandular one is probably *S. racemosa* but of this I am uncertain, as I have not authentic specimens of either it, or of *S. blanda* for examination, and the character under consideration is not indicated in the published definition of either species.

987. FLEMINGIA PROCUMBENS (R.W.) herbaceous, diffuse, procumbent, hairy: leaves palmately trifoliolate; middle leaflet obovate, lateral ones ovate, slightly unequal at the base, hairy above, nearly glabrous, except the veins, beneath: peduncles longer than the leaves: flowers capitate: calyx deeply 5-cleft, divisions linear, lanceolate, acute, about the length of the corolla: ovary two-seeded: stigma capitate hairy: legume shorter than the calyx usually, by abortion, one-seeded: seed oval.

Pycarah in pastures, frequent. A very diffuse plant lying flat on the ground and spreading all round, extending from 12 to 18 inches from the root, leaves about an inch long and 8 lines broad, under surface sprinkled with minute garnet coloured glandular points, flowers dark dull purple.

988. FRAGARIA ELATIOR (Ehrh.) leaflets somewhat coriaceous: hairs on the petioles, peduncles, pedicels and calyx widely spreading: calyx in fruit reflexed: bracteoles similar to the calycine segments. —*W. and A. Prod. p.* 300,

A very common plant about Ootacamund, producing abundance of fruit in May and June, but not limited to these months. The fruit is about the size of the wood strawberry of Europe, of a pale yellowish white, except the side exposed to the sun which is generally tinged with a pale rose blush. It is rather insipid, but when seasoned with a little lime juice and sugar, is much relished by some persons.

989. FRAGARIA INDICA (Andrews) leaflets obovate; peduncles axillary, solitary, 1-flowered: bracteoles patulous, cuneate, much larger and broader than the entire calycine segments, deeply 3-5-toothed at the apex.—*W. and A. Prod p.* 300.

Frequent in shady woods where the soil is somewhat moist. Unlike the rest of the genus the flowers are yellow. The fruit is a bright red, very tempting to the eye, but watery, mawkish and disagreeable to the taste.

990. POTENTILLA LESCHENAULTIANA (Ser.:) covered all over with silky long hairs: stems decumbent at the base: radical and lower leaves pinnated, longish petioled; leaflets 5, cuneate-obovate, obtuse, incise-toothed, the lower pair smaller than the others: upper stem leaves palmately 3-5 foliolate; leaflets about equal and similar to the larger leaflets of the radicle leaves: stipules large, ovate-lanceolate; lower ones often entire; upper toothed or deeply cut: flowers in terminal forked panicles, or corymbose: calycine segments and bracteoles about equal, oblong-lanceolate, more or less obtuse: petals (yellow) slightly obcordate, about equal to the calyx: receptacle villous: carpels slightly wrinkled.—*; stems short; panicles small, corymbiform.—*W. and A. Prod. p.* 301.

Every where common by road sides and ditches, sometimes erect, but oftener diffuse with the ends of the branches only ascending. The fruit of this species approaches more nearly to that of the strawberry than is usual in the genus, but still it is a true Potentilla.

991. PHOTINIA NOTONIANA (Wall.?) leaves from cuneate-lanceolate to oblong, acute, quite entire or with a few inconspicuous scattered teeth: panicles large, very compound; ramifications puberulous: pedicels much shorter than the calyx: cells of the ovary spuriously semi-bilocular: fruit glabrous, 2-seeded.—*W. and A. Prod. p.* 302.

A considerable sized tree, abundantly distributed over the Hills, flowering during March and April, and is then a beautiful object. In June and July the fruit ripen and then are of a dull reddish brown colour. They possess in a remarkable degree the peculiar taste and flavour of those of the mountain ash.

The figures 8, 9, 10, and 11 of this plate, through a blunder of the draftsman, not detected until after the impression was printed off, are inverted. The radicle should in all have been inferior not superior as here shewn.

992. COTONEASTER BUXIFOLIA (Wall. List) shrubby erect, very ramous: leaves oval or subobovate, pointed, glabrous above, tomentose beneath: corymbs few flowered, peduncles and calyx tomentose.

Frequent about Ootacamund, Kulhutty, Orange Valley near Kotergherry &c.

This is a small, rigid, scraggy looking very ramous shrub, rarely attaining the height of six feet. De Candolle doubtfully refers this to his *C. affinis* a Himalayan plant, with what justice, I am unable to say. Making use of his doubt and the wide geographical difference, I have adopted Wallich's name. A more minute description is given in the second part of my Neilgherry Plants. A plant of what I suppose to be *C. affinis*, in Lord Elphinstone's garden at Kaitee, differs toto cælo in habit, the latter being very diffuse, spreading flat on the ground, while this is always erect.

993. PYGEUM ACUMINATUM (Colebrooke) arboreous: leaves alternate, oblong, acuminated, entire, glabrous: racemes axillary shorter than the leaves: flowers yellowish: calyx lobes and corolla indistinguishable, clothed with rusty coloured pubescence: filaments attached to the edge of the tube inflexed in æstivation: ovary ventricose, stigma dilated, two lipped, drupe dry friable, transversely oblong, glabrous.

A large tree of rather rare occurrence. The specimens from which the drawing was taken, were found on the Neilgherries at Kaitee Falls and in the woods about the Avalanche Mr. Gardner and I found it abundantly, in fruit, in February: I do not recollect any other station in which I have observed it. I am uncertain about the species, because it seems to me, had this been the species from which Colebrooke's description is taken, he would have described the flower as apetalous with a 12-lobed calyx limb. In this respect, if the dissection of my figure of Polydontia Ceylanica, No. 256 is correct, and I believe it is, this can scarcely be considered a true congener, as it is represented with distinct calyx and petals, but I have not now the specimens to re-examine. Specimens of a Ceylon species which I have, correspond with this.

994. CONOCARPUS LATIFOLIA (Roxb.:) leaves without glands, elliptical or obovate, obtuse or emarginate, glabrous: peduncles branched, bearing several heads of flowers, or very short with the heads densely aggregated.—u; peduncles conspicuous.—*W. and A. Prod. p.* 316.

A large and handsome tree frequent on the Eastern slopes of the Neilgherries, also in most of the subalpine jungles, along the whole of that mountain range from the Northern Circars to the southern extremity of the Peninsula.

995. SONERILA GRANDIFLORA (R. Br.) erect?, glabrous: leaves elliptic, attenuated at both ends, bristle-serrated, 3-nerved at the base: peduncle terminal (always?), about the length of the leaves, flattened at the apex and there bearing a slightly curved raceme of several unilateral large flowers: petals ovate, pointed: style as long as the stamens: stigma simple: capsule glabrous, 3-sided, scarcely the length of the pedicel.—*W. and A. Prod. p.* 322.

A beautiful plant, and, as compared with the other species of the genus, well named. I have only met with it in one station on the Neilgherries in Long Valley about mid way between the Avalanche and Sisparah. There it occurs in considerable abundance on the banks of a stream by which the valley is intersected. The flowers are of a deep pink, congregated on the ends of the branches. It is an erect suffrutecose plant, from 12 to 18 inches high, the leaves between 2 and 3 inches long and about 1 broad, three to five nerved, the outer pair of nerves often very slender, but in luxuriant plants, such as the one represented, distinctly 5-nerved.

995-2, SONERILA SPECIOSA (Zenker) stem erect, subdichotomous at the base, somewhat foursided: leaves petioled 5-nerved, broadly ovate, acute, mucronately serrated,glabrous; petioles hairy near the apex: peduncles terminal, dichotomus; branches afterwards elongating; flowers secund: calyx and mid rib of the petals, below, covered with short rigid glanduliferous hairs: petals ovate, obtuse, mucronate: style and stamens about equal.

Kaitie Falls rare, on moist sides of ravines in the woods above the Avalanche Bungalow,very abundant, flowering in February. This when seen in perfection is a very handsome species. Flowers pink, rarely more than two or three open at once on each branch of the cyme.

995-3. SONERILA ELEGANS (R. W.) herbaceous, erect, ramous, hairy: leaves petioled, penninerved, from ovate cordate to cordate, acuminated, serrulate: peduncles terminal, cymosely dichotomous; branches afterwards elongating: flowers numerous, secund: calyx pubescent: petals ovate pointed: anthers long beaked: capsule hirsute, conical, 3-sided, crowned with the limb of the calyx: seed hairy.

Sisparah, very abundant all along the road side, in flower and ripe fruit in February. A most conspicuous species, at first a few pale pink flowers open, these are followed successively by others as the branches elongate until at length each branch is several inches long, covered along the upper edge with a row of capsules and two or three flowers at the extremities: the branches in the mean time tending horizontally backwards? and slightly approaching each other, present somewhat the form of the letter V as shown in the drawing.

996. OSBECKIA LESCHENAULTIANA (D.C.:) shrubby: branches 4 angled, beset with stiff hairs: leaves sessile, ovate, somewhat acute, approximate, 5-nerved villous on both sides: flowers sessile, bracteated, about 3 together, capitate: calyx tube globose, covered with palmately ciliated short scales; segments 4, lanceolate. (D. C.) petals obcordate, bluntly mucronate: stamens 8; anthers clavate, truncated, curved: ovary crowned with a tuft of bristles. (R.W. Mss.)

Frequent about Kotergherry, flowering during the autumnal months. Flowers small, compared with those of most of the other species of the genus, and in proportion to the size of the plant, which often attains a height of between two and three feet. They are nearly white dashed with crimson spots. It associates with *O. truncata* in its beakless anthers and small flowers, but is in all other respects amply distinct. The flowers in De Candolle's specimens seem to have been imperfect, as he has not alluded to the petals or stamens.

997. OSBEEKIA GARDNERIANA (R. W.) a large erect ramous shrub, all the young parts clothed with long bristly hairs: leaves sessile, ovate, 3-nerved; usually with two short slender lateral ones near the base, pubescently hairy on both sides: flowers terminal capitate: calyx tube short,campanulate, closely covered with ligulate and towards the apex clavate adpressed scales, furnished with numerous long dark red or rusty coloured bristles; limb 5-cleft, divisions linear, lanceolate, obtuse, more than twice the length of the appendages, both covered with bristles: petals 5, orbicular: stamens 10, anthers recurved, correigated on the inner edge, shortly beaked.

This, which is the largest and most conspicuous species found on the hills, is very abundant in the woods about Ootacamund extending westwards as far as Sisparah. In favourable situations it becomes a large bush 8 or 10 feet high, though generally about 4 or 5; flowering in profusion during February and March. It is nearly allied to *O. Wightiana* but is abundantly distinct in nature, though, as regards technical characters, the difference is not so clearly seen. I have dedicated it to my friend George Gardner, Esq. Superintendant of the Royal Botanical Garden of Ceylon, as a memorial of many agreeable hours spent in his company while exploring together the wilds of these Hills.

998. OSBECKIA WIGHTIANA (Benth.) shrubby: branches herbaceous, scabrous with short bristles: leaves nearly sessile, ovate, slightly acute, quite entire, 5-7 nerved; upper side covered with adpressed somewhat shining hairs; under hirsute on the nerves and shortly tomentose between them: flowers (large) terminal, at first densely capitate and bracteated, afterwards often solitary: calyx campanulate, densely covered with short adpressed capitate scales, bearing a tuft of long bristles at the apex; segments 5 deciduous; appendages deciduous, covered with bristles: anthers 10, linear-oblong, scarcely beaked: style clavate.—*W. and A. Prod. p.* 323.

This species is rare about Ootacamund but about Coonoor and Kaitie Falls it is commen. It is readily distinguished from the preceding by the short ridged shining adpressed hairs with which the 5-nerved leaves are covered and by the calycine bristles being nearly white, while in it they are a deep brownish red.

999. EUGENIA (S.) ARNOTTIANA (R. W. Ill. Ind. Bot. *Syzygeum densiflorum* Wall.) leaves elliptic, oblong, acuminated, folded, coriaceous, dotted: cyme dense, corymbose; peduncles lateral, general and partial stout, the partial ones short and bearing at the apex an umbel of 8-12 almost sessile flowers subtended by oblong-linear caducous bracteas; calyx shortly turbinate; limb cup-shaped, shortly and bluntly 4-toothed or lobed: petals expanded before falling off.—*W. and A. Prod. p.* 329.

Abundant in the jungles about Ootacamund and generally met with in the woods on the higher hills. It is a beautiful tree, generally of low growth, with wide spreading branches forming a fine umbrageous head. It is in its greatest perfection in February and March when covered with thousands of large clusters of flowers. In May and June it is covered with myriads of its oblong dark purple succulent austere tasted fruit. The Cotyledons are thick and fleshy placed horizontally one above the other with a small radicle between.

The fruit is eat to a considerable extent by the natives, though, owing to its astringency, by no means palatable.

1000. EUGENIA (S) CALOPHYLIFOLIA (R. W.) arboreous, ramuli, 4-sided: leaves approximated towards the ends of the branchlets, from oval, very obtuse, to obovate-orbicular, coriaceous; veinless above, penninerved beneath, when dry, slightly revolute on the margin, not dotted: cyms terminal, corymbose, short peduncled, many flowered: calyx repandly 4 toothed: petals 4, orbicular, separating as one: fruit drupaceous, oval, oblong, succulent, dark purple when ripe.

A low spreading tree, very abundant in the woods about Ootacamund. The flowers are exceedingly numerous but make no show so few in each cluster opening at the same time. The tree itself however is a very beautiful one, with a fine round umbrageous head. It is to be met with in flower at all seasons, but is in greatest perfection in March and April. The fruit is so like those of *E. Arnottiana* that the same description will serve for both.

1001. SERPICULA HIRSUTA (W. & A.) stems hirsute: leaves opposit cuneate-oblong or oval, toothed towards the apex, slightly hairy particularly on the under side: male flowers 8 androus, on hairy pedicels twice the length of the leaves.—*a*; leaves oval, slightly cuneate at the base.—*W. and A. Prod. p.* 331.

A low creeping procumbent plant very common in moist pastures, especially in the vicinity of springs and water courses. 1. verticel of flowers—2 fertile flower showing the 4 styles--3. male flower unopened—4. the same opened—5. anthers—6. pollen—7. young fruit front view—8 side view—9. stigma—10. ovary split open showing the 4 pendulous ovules.—11. full grown fruit—12 cut vertically—13. transversely—14. embryo detached.

1002. HYDROCOTYLE CONFERTA (R.W.) procumbent, rooting: every where clothed with long hairs: leaves long petioled, orbicular reniform, obscurely 7-lobed, serrately toothed: flowers all fertile: umbels globular, many flowered, always sessile: fruit turged ecostate.

Frequent in dense woods: where the soil is moist it grows with great luxuriance extending several feet from the original root. This species is nearly allied to both *H. Nepalensis* and *capitata*, but seems, so far as I can judge, amply distinct from both in its constantly sessile umbels and bisexual flowers.

1003. HYDROCOTYLE POLYCEPHALA (W. & A.:) stems rooting, scabrous or nearly glabrous; branches petioles and peduncles, and the leaves sparingly on both sides, scabrous from short stout hairs: leaves attached by the margin, orbicular-reniform, 7-lobed; lobes scarcely acute, coarsely crenated: peduncles hoary, numerous (6-18) and umbellate in the axil of the uppermost shortly petioled leaf, almost as long as the leaf: flowers all fertile, numerous (20-30 together), at first capitate and almost sessile, afterwards (in fruit) on short glabrous somewhat permanent pedicels: fruit didymous, slightly 2-ribbed on each side, smooth and flat between the ribs.—*W. and A. Prod p.* 366.

Frequent in low woods in rich moist soil; in such situations very luxuriant, completely covering large patches of ground, I have found it in many and distant stations in similar situations, both on the Continent and in Ceylon.

1004. SANICULA ELATA (Ham.:) stem dichotomous at the apex: leaves 3-partite or ternate, glabrous; segments sessile, ovate, acute, lobed and serrated, cuneate at the base, the lateral ones often bipartite: umbels usually 3-fid, few-flowered: flowers polygamous, the males pedicelled.—*W. and A. Prod. p.* 367.

Common in almost every wood about Ootacamund, flowering during the rainy season. It often attains a large size, three or four feet in height.

1005. PIMPINELLA LESCHENAULTII (DC.:) biennial?: stem slightly branched, glabrous or minutely pubescent: radical leaves petioled, orbicular, cordate, entire, toothed, firm and hard, many-nerved at the base, glabrous on the upper side, pubescent on the under; cauline ones few, divided, small and almost reduced to the sheaths: umbel with 5-10 pubescent rays; partial ones with many rays: involucres and involucels wanting: styles diverging: fruit ovate-acuminated, glabrous.—*W. and A. Prod. p.* 369.

Generally distributed over the higher ranges of the hills in dry pastures, flowering during the rainy season. From the naked exposed situations in which it usually grows, though in itself little striking, it becomes very conspicuous. The roots are perennial and strike deep into the soil.

1006. BUPLEURUM DISTICHOPHYLLUM (W. & A.:) perennial: stems erect, simple and twiggy below, flexuose and almost simply branched upwards: leaves distichous and usually crowded near the base of the stem, more distant upwards, somewhat erect, from narrow-linear and much acuminated to linear-subulate, very sharp, amplexicaul, striated on the under side: general umbel with 5-8 rays; partial with 10-13 flowers: leaflets of the involucre and involucel about 5 or 6, linear acuminated and very sharp; the former about twice as sharp as the rays, the latter usually longer than the fruit: fruit prominently ribbed, rather shorter than the pedicels; interstices flattish, with single vittæ.—*W and A. Prod p.* 370.

Common on the higher ranges of the hills in pastures. The figure represents an average sized plant. It is oftener smaller, more rarely it exceeds that size. Flowering during the rainy and cool season.

1007. Bupleurum ramosissimum (W. & A. :) perennial, diffuse and much branched, leaves oblong-linear, with a long mucro, narrowed towards the base, amplexicaul, 5-9 nerved, between coriaceous and membranaceous : general umbels with 5-8 rays ; partial with 8-12 flowers : leaflets of the involucre and involucel about 5, oblong linear, mucronate ; the former 2-3 times shorter than the rays ; the latter rather longer than the flowers, shorter than the fruit : fruit about a half longer than the pedicels, strongly ribbed ; interstices with 1-2 vittæ.—*W & A. Prod. p.* 370.

Common among bushes and thickets. In such situations it is frequent on every road side, frequently attaining a large size. I have seen plants seven or eight feet or more in height. It is well named ramosissimum but that of mucronatum seems equally appropriate, and after comparing many specimens in all states and forms, I am now satisfied that one of these species must be reduced. *B. virgatum* seems also too nearly allied to these.

1008. Pastinaca Sprengeliana (R. W. *Heracleum Sprengelianum* W. and A.) Stem much branched, furrowed when dry, rough ; leaves puberulous on both sides, unequally pinnate, purnæ pinnatifid divisions ovate, irregularly lobed, ultimate division 3, lobed, lobes acute serrated : petals equal : nearly orbicular vittæ on the back, linear acute, shorter than the fruit the lateral ones in the middle of the insterstices ; vittæ on the commissure, 4 slightly clavate and unequal.

A very large coarse growing species frequent about hedges and enclosures, perhaps in other situations among thickets in moist rich soil : of this however I am not quite certain, as I find there are two species closely resembling each other, which I have hitherto confounded.

1009. Pastinaca rigens (R. W. *Heracleum rigens* Wall D. C. W. and A.) stem slightly branched, furrowed, pubescent or hirsute : leaves ternate ; divisions roundish, somewhat cordate at the base, toothed, upper side more or less seabrous with short hairs, under densely pubescent or tomentose, lateral ones on a short, terminal one on a long petiole, the latter bluntly 3-lobed or ternate ; leaflets of the involucel ovate : petals equal : fruit obovate ; vittæ on the back linear, much shorter than the fruit, the lateral ones in pairs, and close to the intermediate ridges : vittæ on the commissura 4, acute, unequal, the two outer the shorter.—*W. and A. Prod. p.* 373.

Frequent in pastures, flowering during the rainy autumnal months. The radical leaves are usually pinnated and lie on the ground. The specimens selected for representation is a small one, but as compared with many of the others, this is a small species, though larger than the next.

1010. Pastinaca Hookeriana, (R. W. *Heracleum Hookerianum. W. and A.*) Stem nearly simple, furrowed, coarsely pubescent or somewhat hirsute with short glutinous hairs ; leaves nearly radical, 3-lobed, toothed, sparingly pubescent or hairy on the upper side, shortly tomentose on the under ; lobes roundish, toothed, the terminal one the largest and often 3-lobed ; upper stem-leaves few, and sometimes almost reduced to the mere sheaths ; umbels long-peduncled, with 6-10 rays : leaflets of the involucre persistent during flowering, afterwards deciduous. lanceolate-subulate : of the involucel oblong lanceolate, longer than the flowers : petals (whitish with a tinge of red) unequal : fruit (very immature) sprinkled with a few short hairs ; commissura with 2 vittæ.—*W. and A. Prod. p.* 337.

Like the preceding this frequents pastures, on the slopes of the hills, and during the rainy season, is equally abundant : it is readily distinguished by its naked stems, the leaves being all radical and lying flat on the ground.

Being unable to discover any characters, by which these species and several others in my collection, may be distinguished generally from Pastinaca, the older genus of the two, I have been induced to refer them all to that genus in preference to retaining both it and *Heracleum* in the Indian Flora. It is my impression that there is no difference between the two genera but I leave that for those who have better means of determining the point to decide. So far as written characters go there is no difference but there may be in habit, with which I am unacquainted.

1011 & 12 Hedera (P.) obovata (R. W.) arboreous, glabrous, leaves digitate ; leaflets about 5, petioled, obovate, cuniate, very obtuse or sometimes obcordate, coriaceous : thyrses numerous, aggregated towards the ends of the branches, ebractiate : umbels numerous, solitary in each peduncle, flowers pedicelled : petals, stamens and stigmas from six to eight ovary 6-8-celled.

A rather widely distributed tree, of small size, occurring in alpine jungles. I have specimens from Courtallum ; Shevagherry Hills ; Hills near Coimbatore, and from the jungles about Coonoor. The specimen from which the drawing was taken is from the latter station, where it flowers in April and May.

1013-14. Hedera (P.) rostrata (R. W.) arboreous, glabrous : leaves digitate ; leaflets 5 to 9 longish petioled, ovate lanceolate acuminated, serrated : thyrses solitary, terminal, at first furnished with several sheathing cuspidate bracts : (abortive leaves) lateral peduncles bracteated, from one to three umbelled : flowers numerous pedicelled : petals 5, dehising before falling : stamens and styles 5, exserted, cohering and forming a beak, persistent in the fruit : ovary and fruit 5-celled.

A considerable tree frequent in woods near Nedawuttem and Sisparah on the Neilgherries. The serrated leaves and long beak-like style at once distinguish this species. The branches of the thyrse, in the specimen from which the drawing was made, seem all to have borne solitary umbels, my specimens, however, in some instances, have three umbels on one branch. This species seems to go far towards reducing the genus *Gilibertia*.

1015. Hedera (P.) racemosa (R. W.) arboreous, leaves digitate : leaflets about 7 form oblong, lanceolate acuminated, undulate on the margin, to elliptic cuspidate : thyrses panicled, usually lateral (from the previous year's wood) branches racemose, flowers pedicelled, furnished at the base of the pedicel with a small somewhat subulate bractea : petals and stamens 5, styles 5 short ; stigmas distinct obtuse : fruit 5-celled.

A large tree of rather rare occurrence. A few fine trees 70 or 80 feet high, and large in proportion are growing in the woods behind Kelso land in Ootacamund. I have met with it in several other places, but no where abundant. The very peculiar inflorescence at once distinguishes it from the rest of the genus. The leaflets vary a good deal in form and size ; in some of my specimens they are scarcely waved nearly elliptic with a short cuspidate point, under 4 inches long, and 1½ broad, in others they are 6 or 7 inches long and about 2 broad, much waved. Flowers June and July.

OBS. In our PRODROMUS it is remarked that *Paratropia* appears a natural genus, having the leaves digitate and umbels of flowers arranged in racemes forming thyrses, &c., being now impressed with conviction that, so far as characters derived from the fructification are concerned, no generic difference exits between *Hedera* and *Paratropia*, I have referred all these species to the former, but have retained the latter as a very natural and characteristic subgenus, on account of their digitate leaves and thrysoid inflorescence; these, in the absence of structural difference of the reproductive organs, not being held of sufficient weight to entitle them to generic value.

1016. VISCUM ORBICULATUM (R. W.) monoicous, branches foursided, angled: leaves opposite, orbicular, much waved on the margin, slightly 3-5 nerved: flowers sessile, axillary, aggregated, male and female mixed: anthers sessile on the lobes of the calyx, flat, composed of numerous little cells, berries oval, oblong, obtuse at both ends.

A very rare shrub; the plants from which the drawing was made being the only ones I have seen; they were growing on the branches of *Agapetes arborea.* The Draftsman has not correctly represented the anthers, the other parts of the figure are unexceptionable.

1017. VISCUM RAMOSISSIMUM (Wall:) entirely or almost leafless, much branched: stem and branches terete, verticiliate or opposite, younger branches usually long and slender: leaves (when present) narrow, oblong, 3-nerved: flowers usually 3 together, axillary, sessile or nearly so: berries almost globose. —*W. and A. Prod*, *p.* 380.

This like the preceding is monoicous, and is frequently met with in all parts of the country.

1018. VISCUM MONILIFORME (Blume) leafless: stems terete at the base; branches opposite or fascicled, compressed: articulations obovate-oblong, tapering at the base, 3-4 times longer than broad, costate along the middle but not striated: flowers sessile at the apex of the joints, opposite or in opposite fascicles of 3 together, sometimes nearly verticiliate.—*W. and A. Prod., p.* 380.

This is, like the preceding, a widely distributed plant and is found on all kinds of trees, the specimen here given, grew on the *Rhododendron arboreum* a portion of which accompanies.

1019. VISCUM MONILIFORME *β coraloides* (R. W.) This variety occurs in the most profuse abundance on the hills, frequenting nearly all kinds of trees and shrubs, but is probably most frequent on a species of Ilix. The specimen from which the drawing was taken grew on a species of *agapetes* on the banks of the Pycarah River. This variety seems quite diœcious; but I have never met with a male plant among hundreds that I have examined. Judging from the specimen figured, it might well be considered a distinct species, but extended examination of the plant in all its forms scarcely warrants its separation from the preceding.

1020. LORANTHUS NEILGHERRENSIS, (W. & A.:) glabrous: branches terete, young ones obscurely and bluntly angled: leaves alternate, elliptic-oblong, shortly petioled, thick and somewhat fleshy, ultimate one of the branch (always ?) orbicular ovate: peduncles axillary, aggregated, very short, about the length of the petiole, bearing an umbel of 3-7, very shortly pedicelled flowers: bractea solitary under the ovary and close to it, lateral, ovate: margin of the calyx obscurely repand-toothed: corolla glabrous, ventricosely gibbous at the base, equally 5-cleft to beyond the middle; segments cunecate-linear, recurved.—*W. and A. Prod,, p.* 382.

This is a fine species of great size, and when in perfection, most conspicuous from its numerous deep red, almost crimson coloured flowers, which completely cover the branches, while the young leaves on the new shoots are also often deep red.

1021. VIBURNUM ACUMINATUM, (Wall.:) young branches, petioles, and peduncles dotted with small rusty-coloured scales: leaves elliptical, acuminated at both ends, coriaceous, quite entire with the margin slightly recurved, glabrous: upper side shining, under covered with minute shining rusty-coloured dots: corymb terminal, large, trichotomous, often larger than the leaves: stigmas sessile: berry oval-oblong.—*W. and A. Prod., p.* 388.

A common and widely distributed species, but rarely, if ever, met with at the elevation of Ootacamund, at Conoor, and for two or three miles below that place, it is very common and when in flower, a very handsome shrub. I have specimens from several other alpine stations, but have never seen it under three or four thousand feet of elevation.

In some situations it may almost be called a small tree generally it is a large ramous shrub.

1022. VIBURNUM CAPITELLATUM, (W. & A.:) free from scales, quite glabrous except in the axils of the nerves: leaves oval-lanceolate, with a few distant wavy teeth, attenuated at the apex into a rather fine point, under side with the axils of the nerves woolly: cymes compound, somewhat umbel-shaped, 3-6-partite; flowers umbellate, several together, nearly sessile at the extremity of the ultimate divisions: flower-buds viscous and shining: stigmas sessile: berries oval-oblong.—*W. and A. Prod., p.* 388.

The specimens from which the accompanying drawing was made were found in the neighbourhood of Kotergherry. I have other specimens from the Pulny range, found at a nearly similar elevation: but I do not recollect having observed it about Ootacamund. It is a handsome shrub, very nearly allied to the next, but evidently distinct. Flowers during the autumnal months.

1023. VIBURNUM HEBANTHUM, (W. & A.:) branches, petioles, and general peduncles glabrous: leaves elliptical or obovate, shortly acuminated, obtuse or acute at the base, slightly sinuate-toothed on the lower half, coarsely so toward the apex, woolly in the axils of the nerves on the under side, otherwise glabrous: partial peduncles of the corymb pubescent: corolla tubular campanalate, softly pubescent, limb very small, nearly erect, 4-5 times shorter than the tube: style very short and thick.—*W. and A. Prod., p.* 388.

A very common shrub or small tree all over the higher ranges of the hills. The specimen from which the figure is taken does not convey a favourable impression of the inflorescence, but can scarcely be said to be unfavourable, as in that respect it is certainly the least striking of the Neilgherry species. It begins to show its flowers in February, but is not in perfection until March and April.

1024. VIBURNUM WIGHTIANUM, (Wall.) branches, petioles, peduncles, pedicels, and flowers glabrous: leaves oval, shortly acuminated, obtuse at the base, quite entire on the lower half, sharply serrated towards the apex; upper side glabrous; under slightly puberulous when young, nearly glabrous when old, the nerves densely pubescent and their axils woolly: corymb shortly peduncled, somewhat panicle-shaped: bracteas linear, pubescent and ciliated: corolla hypocrateriform; limb spreading, conspicuous, about 4 times shorter than the tube: ovary linear: style very short and thick.—*W. and A. Prod. p.* 388.

A moderate tree or large shrub frequent in the woods about Ootacamund, flowering in April and May, but generally to be met with at other seasons. The fruit in this, like those of the preceding, is an oval succulent drupe red, and subacid when ripe.

OBS. It will be remarked from an examination of the dissections of the ovary of all these species that it is one-celled with a single pendulous ovule. This structure led me at one time to suppose these formed a genus distinct from the European genus *Vibernum*, but on comparing the ovary of 2 European species—*V. Opulus* and *V. Lantana*, I found the same structure, though, judging from the descriptions of the most recent writers, I was led to expect them 3-celled.

1025. LONICERA (X.) LIGUSTRINA, (Wall.) stem somewhat erect and bushy; branches slender, slightly twining, younger ones hairy or pubescent: leaves shortly petioled, ovate-lanceolate, acute, obtuse at the base, quite entire, shining, sprinkled on the margin and when young on the midrib beneath with spreading hairs: peduncles a little longer than the petioles, slightly drooping at the apex, 2-flowered, axillary and solitary; bracteas, a subulate one at the back of each ovary, and one cup-shaped closely surrounding and containing both ovaries: calyx; limb constricted in the middle, the margin 5-toothed teeth oblong, short: corolla puberulous, infundibuliform; tube rather short, gibbous on one side at the base; berries distinct, both covered by the common bractea.—*W. and A. Prod., p.* 389.

This a very common plant about Ootacamund, and like the privit is much used as a fence about gardens for which purpose it answers well, forming a very compact one. The flowers are too small and too few in proportion to the quantity of leaves to admit of its being considered an ornamental flowering shrub, but so far as general form is concerned, were shrubberies more in vogue on the hills, it would well merit a place in them.

1026. HEDYOTIS (D.) LAWSONIÆ, (W. & A.:) shrubby, glabrous: branches 4-angled: leaves oblong-lanceolate, acuminated at both ends, petioled; nerves few and distant, curved: stipules deciduous, triangular-ovate, acuminated, the point thickened and glandular-lobed; the margin entire: panicle spreading: calyx-limb cup-shaped, 4-toothed: corolla externally glabrous, villous in the mouth and on the segments slightly protruded: style considerably protruded: capsule obovate, dicoccous.—W. *and A. Prod. p.* 407.

A handsome but neglected shrub, found in the woods about Ootacamund and elsewhere, not very rare on the Hills. The flowers which in fine plants, form much larger clusters than those here represented, are so much of lilac colour, that introduced into shrubberries, and some care bestowed on its cultivation, it might become a passing good substitute for the lilac.

1027. HEDYOTIS. (D.) STYLOSA (Brown:) shruby, glabrous: branches somewhat terete or obtusely 4-angled: leaves from oval to oblong-lanceolate, acuminated at both ends, petioled; the nerves on the under side strong, armed, slightly branched: stipules somewhat permanent, triangular-ovate; their margin pectinately pinnatifid, the segments long, filiform, hirsute: panicle spreading: calyx-limb cup-shaped, 4-toothed: corolla externally glabrous, villous in the mouth on the segments: filaments considerably protruded: style much protruded: capsule ovoid, dicoccous.—W. *and A. Prod. p.* 389.

This is a much more abundant shrub than the preceding, and the clusters of flowers being larger it is really a showy plant, but I have not once seen it in cultivation though abundant in the woods. The flowers are nearly white, and it is in flower at nearly all seasons.

1028. HEDYOTIS (D.) ARTICULARIS (Brown:) shrubby, glabrous: branches terete or obscurely 4-angled: leaves approximated sessile, narrow, oblong-lanceolate with the margins recurved, coriaceous, minutely papillose; nerves on the under side striæform, close, simple: stipules ovate-lanceolate, the opposite ones connate at the base; the margins divided into several filiform rigid segments; panicle coarctate: calyx-limb cup-shaped, 4-toothed; corolla externally puberulous, villous in the mouth and on the segments: filaments protruded; anthers oblong-linear: style scarcely longer than the tube of the corolla: capsule oblong-obovate, dicoccous.—W. *and A. Prod. p.* 389.

A common flowering shrub on the hills and to be met with in nearly all situations, especially when the soil is somewhat humid. It is usually a dry scraggy looking plant, almost always to be met with covered with flowers and dry yellow sickly looking capsules. Judging from its appearance in the wild state there is little in its appearance to recommend it to the attention of the Amateur.

1029. HEDYOTIS (D.) VERTICELLARIS (Wall *Hed. plantaginifolia Arn pug* ?) perennial herbaceous, leaves nearly all radical, linear-lanceolate, nerved, plaited between the nerves glabrous, overlapping at the base; those of the scapes linear lanceolate: scapes as long or longer than the leaves leafy; lower pairs distant opposite; upper ones approximated verticelled: stipules between the distant pairs bristle toothed: flowers sessile, capitate and terminal, or verticelled in the axils of the upper leaves: heads from the axils of the lower pairs peduncled: calyx segments linear lanceolate as long or longer than the tube of the corolla: corolla infundibuliform, hairy in the throat: stamens more or less exserted or included.

Very abundant in marshy soil on the banks of the river at Pycarah, also all along the road from a mile or two beyond the Avalanche to Sisparah, and is generally distributed in marshy grounds over the Koodahs. When in full flower it is certainly a beautiful plant. I can see no difference between this and *H. plantaginifolia* Arnott, and feel confident this last has been added to the list of described species owing to Dr. Arnott not having a specimen to compare, and our description having been made from a scape only not a perfect plant. The proper stems of both are under ground rhizoms, the leaves and scapes are the same in both—and so are the flowers and seed.

1030. HIDYOTIS (A.) AFFINIS (W. & A.) herbaceous, procumbent, rooting: stems flexuose, branched, branches villous, particularly near the extremities: hairs on the branches and leaves flat and jointed: leaves deltoid-ovate, acute, tapering slightly at the base into a petiole about one-third of the length of the limb, sprinkled with hairs on both sides, paler on the under: bristles of the stipules 2-4 on each side, much shorter than the petioles: corymbs shortly hirsute, terminal, peduncled, trichotomous: calyx-segments cuneate-lanceolate, becoming larger and somewhat foliaceous immediately after flowering: corolla infundibuliform; tube slender, 4-5 times longer than the calyx-segments: filaments exserted and the style short, or filaments short and the style elongated: capsule with 6-8 seeds in each cell.—W. *and A. Prod. p.* 411.

This is a very common plant on the Neilgherries, especially on the banks of water courses and in pastures where the soil is somewhat humid. I long considered it the *Hed. deltoidea* and it was only recently, when arranging the whole of my collections of the genus, I ascertained that the one here represented was more correctly referable to *affinis* than to *deltoidea*; the two species might, I think with advantage, be united. *H. Leschenaultiana* might however be retained as a good species, distinguished by its sessile, cordate, ovate, somewhat amplexicaul leaves.

1031. HIDYOTIS (A.) MONOSPERMA (W. and A.:) herbaceous, procumbent, rooting: stems and branches slender, glabrous below, hairy towards the extremities: leaves petioled with the petioles more than one-half the length of the limb, deltoid-ovate, acute; upper side thickly, under thinly sprinkled with flat jointed hairs: stipules with 2-4 hairy bristles on each sides: corymbs somewhat terminal, simple, small, few-flowered; corolla shortly infundibuliform, the tube about twice the length of the calyx-segments: capsule compressed-globose, crowned with the distant spreading calyx-teeth; seeds solitary! in each cell.—W. *and A. Prod. p.* 410.

This is a common and widely diffused plant, my specimens being derived from Courtallum, Shevagherry, Malabar and the Neilgherries, &c. As a species it is very distinct from all the rest of the genus, unless by the way I chance to have confounded two or more species, having a similar structure, which seems not improbable as viewed as one, it seems rather polymorphous, but this point still remains for closer examination than I have yet had leisure to bestow.

1032 LASIANTHUS VENULOSUS (R.W. *Santia venulosa* W. & A.) shrubby, glabrous: stipules triangular hairy: leaves coriaceous, short petioled, elliptic-oblong, cuspidate or acuminate, glabrous above; veins prominent on both sides beneath sprinkled with hairs: cymes axillary, short peduncled few (3-5) flowered: bracteas small hairy: calyx 4-5 parted, divisions subulate, as long as the tube of the corolla: corolla 4-5 cleft throat and lobes hairy: stamens 4-5: style as long or often longer than the corolla 3-5 lobed: cells of the ovary equalling the lobes of the stigma; a single erect ovule in each.

Common in the woods about Ootacamund, and generally distributed over the higher ranges of the Hills—a very ramous shrub: leaves from 2 to 4 inches long by about half as much broad, of a light yellowish green colour, sometimes acuminate oftener cuspidate. Flowers pale yellow or cream coloured, berries about the size of a pea, succulent blue. The long teeth of the calyx of this species, is very characteristic. The inflorescence is essentially cymose, but the peduncles are sometimes reduced to one flower.

1033. WENDLANDIA NOTONIANA (Wall.:) arboreous, with the young shoots hirsute: leaves petioled, oblong, slightly tapering at both ends; upper side glabrous, under somewhat glaucous, more or less minutely pubescent, often nearly quite glabrous except on the nerves and veins: stipules triangular-ovate-hirsute at the base; the upper part glabrous, recurved: branches of the panicle hirsute, somewhat erect, flowers crowded and forming interrupted spikes: calyx hoary, the teeth triangular, acuminated: corolla glabrous, 6-8 times longer than the limb of the calyx tube widened at the mouth; divisions of the limb oval, obtuse, recurved; anthers nearly sessile: capsule sprinkled with short hairs.—W. *and A. Prod. p.* 403.

A large and very beautiful shrub frequent about Coonoor and Kotergherry, but not ascending to the elevation of Ootacamund. It also occurs abundantly and in great perfection about Kaitie Falls flowering in February and March, when it is most ornamental often attaining a height of from 10 to 15 feet with every branch terminated by a large panicle of reddish white flowers.

1034. CANTHIUM UMBELLATUM (R. W.) shrubby or subarboreous, unarmed; young branches four-sided: leaves short petioled, oval acuminated glabrous, coriaceous: flowers axillary umbelled on a short thick peduncle: calyx limb obtusely 5-lobed: tube of the corolla hairy within, the lower hairs pointing downwards: stamens 5: style exserted: stigma mitriform, 2 lobed, fruit obovate didymous.

An alpine plant rather rare on the Neilgherries about the elevation of Kotergherry, where in Orange Valley I found it forming a moderate sized tree. I also found it in great abundance on the tops of the Hills at Shevagherry in full flower in September. It is very nearly allied to *C. didymum* from which it scarcely differs except in the inflorescence, and subarboreous habit of the plant generally: the leaves when the two are compared are found much larger and more coriaceous in this, but its most striking characteristic, is the union of all the branches of the cyme into a single stout peduncle from the dilated apex of which, the flowers rise on short pedicels—Flowers white.

1035. PAVETTA BREVIFLORA (D. C.) leaves oval acute at the base, acuminated, short petioled, submembranaceous glabrous: panicles corymbose, many flowered, its opposite branches, ramuli, and flowers glabrous: tube of the corolla scarcely longer than the lobes.—Tube of the corolla about 3 lines long: style 4 lines clavate at the apex: stipules broad membranaceous: plant turning black in drying—*D. C. Prod.* 4. *p.* 491.

A shrub not uncommon in the woods about Ootacamund flowering in March and April. The leaves which are thin and translucent when held between the eye and the light are seen marked with numerous dark glandular points. DeCandolles' specimens were from the Neilgherries, and as this is the only species I have seen there, presume this is his plant though he has failed to notice the ciliate margins of the calyx lobes. There are however two forms one with the calyx lobes, minute, glabrous, the other with them larger and ciliated, but beyond that I can see no other point of difference of any importance, I have therefore united them as mere varieties. In the analyses of the plate both forms are given.

1036. GRUMELIA ELONGATA (R. W.) shrubby glabrous : leaves short petioled, obovate oblong, cuspidatety acuminate; penninerved becoming yellowish in drying: stipules caducous, ovate oblong,broad pointed cymes elongated, panicle-shaped, compact when in flower, enlarging somewhat in fruit: calyx limb minutely 5-toothed : tube of the corolla short, throat closed with hairs : style umbraced at the base by a thick convex fleshy disk, stigma exserted, dilated 2-lobed.

In woods about Ootacamund but rather sparingly. I also possess specimens from several other stations, Courtallum, Shevagherry &c. It is unquestionably very nearly allied to the next, but is, I think, an abundantly distinct species, as well by character as habit; the two bushes, even when growing side by side, generally flowering at different seasons. The flowering season of this is the autumnal months, of that the spring ones.

1037. GRUMELIA CONGESTA (W.&A.) erect: leaves short petioled, oblong, acuminated at both ends, penninerved becoming yellowish by drying: stipules broadly triangular, cuspidate, caducous: corymbs sessile, at first compact and scarcely longer than the stipules, afterwards larger but also compact or rarely spreading when in fruit, naked calyx-limb somewhat bluntly 5-toothed: tube of the corolla short, scarcely longer than the calyx-limb; berry ovoid, not furrowed.—*W. and A. Prod. p.* 432,

With the preceding and much resembling it.

1038. PSYCHOTRIA SARMENTOSA? (Blume) stem climbing rooting; leaves short petioled lanceolate; acuminated at both ends, slenderly veined, coriaceous, glabrous; stipules connate: corymbs terminal devaricately-trichotomous: tube of the corolla funnel-shaped: drupes elliptic, globose, furrowed by drying. —D. C. Prod. 4-522.

Malabar about Calicut: also in Ceylon. The drawing is taken from a Malabar specimen, I have others from Ceylon. Though this plant corresponds well with De Candolle's character, so far as it goes, I am doubtful of its being Blume's plant.

The tube of the corolla of my plant can scarcely be said to be funnel-shaped, and no notice is taken of the very hairy throat; but still these differences are too slight to justify me in describing it as distinct while unacquainted with the original species.

1039. PSYCHOTRIA BISULCATA (W. & A.:) shrubby, diffuse, glabrous: leaves with a short petiole slightly dilated at the base, oblong-lanceolate, tapering at the base: stipules triangular-acuminated, caducous: corymb terminal, peduncled, small, few-flowered, trichotomous or with the primary rays in fives, with minute acute bracteas subtending the ramifications: calyx-limb 5-lobed; lobes roundish-ovate: tube of the corolla bearded in the throat, about twice the length of the calyx-limb: filaments exserted; anthers oblong: stigma nearly included, short and thick, bipartite: berry ovate, 4 furrowed by drying: seed and albumen flat on the inner side, with two deep dorsal furrows and an intermediate broad blunt ridge.—*W. and A. Prod. p.* 434.

In woods about Ootacamund but rather sparingly. The leaves are of a light lively green, and dry almost unchanged in colour.

OBS. These two genera *Grumelia* and *Psychotria* ought to be united as they are truly one in every thing except the ruminated albumen of the former; a character, which, however good in a mere carpological system, is too limited for a vegetable one (which requires its generic characters to be taken from more organs and structures than one) as it can only be made out from ripe seed; if both are preserved then, I believe, I may almost predict that probably half the present genus *Psychotria* must ultimately be transferred to *Grumelia* and then, without specimens furnished with ripe fruit no man can tell whether an unknown species belongs to the one or other genus. Our *P. bractiata* I feel certain will, when the ripe seed is found, prove a *Grumelia*: Wallich's *P. truncata* I am all but certain is a *Grumelia*, and I think identical with our *G. congesta*—Genera in a natural system ought not to rest on a solitary character, since only the most artificial can be so limited and still less so when that is derived from the ripe seed which, as distinct from *Psychotria*, is certainly the case with *Grumelia*.

1040. COFFEA ALPESTRIS (R. W.) shrubby, glabrous: leaves lanceolate, cuneate towards the base, pointed, coriaceous: peduncles axillary, confined to the upper leaves, longer than the petioles, aggregated forming terminal corymbs: corolla five cleft; divisions much longer than the tube, lanceolate obtuse: anthers exserted style gibbous, near the base, hairy: stigma clavate, glabrous: berry oval 2-seeded.

Ootacamund in woods flowering March and April. A low very ramous shrub the branches nearly naked, the ramuli covered with closely approximated coriaceous shining leaves: peduncles confined to the terminal axils, generally about 3 flowered; flowers white with a hairy throat and line of hairs extending along the segments of the corolla.

1041. COFFEA GRUMELIOIDES (R. W.) shrubby or subarboreous glabrous: leaves obovate cuneate, shortly and bluntly acuminate, coriaceous: peduncles axillary, confined to the upper axils, about 3 flowered forming terminal corymbs: corolla 5 cleft, throat hairy, divisions oblong elliptic obtuse; anthers exserted: style not gibbous: stigma clavate, slightly cleft at the apex: berry ovoid, crowned with the persistent calyx.

A large shrub or small tree, in low woods by the road side going to Pycarah, flowering in February. This seems to be a rarer species than the preceding and is confined to a lower range of elevation. Though in many respects like *C. alpestris* this is certainly a distinct species.

1042. GALIUM REQUIENIANUM (W. & A.:) perennial: stems diffuse, ascending, branched, and the branches 4-angled, clothed with much soft spreading or deflexed hair, when old more glabrous: leaves in fours, roundish-obovate, mucronate, 3-nerved; upper sides sprinkled with hairs; under more copiously hairy, particularly on the nerves and margin: peduncles axillary or terminal, few-flowered, trichotomous, hairy: divisions of the corolla roundish-ovate, slightly hairy on the outside: fruit roundish, hispid with hooked bristles.—*W. and A. Prod. p.* 443.

This is a low growing procumbent plant which, but for the large patches it forms, would be but little conspicuous from the grass among which it grows. I believe it is in flower the greater part of the year.

The late Mr. Griffith was of opinion that the Stellate division of Rubiaceæ were misunderstood and erroneously described in calling the yellow petaloid part of the flower, a corolla. That he once stated to me in a letter, he considered merely the coloured dilated calyx limb. I have since often examined the flower with reference to that view of its structure, but have scarcely been able to satisfy myself that there is not both a calyx and corolla. The Draftsman seems here to have settled the point in Mr. Griffith's favour. He knows nothing of Botanical opinions or theories, but sets down what he sees, and here he has assuredly given no corolla, and I think he is right; in which case this section must, as Lindley has done, be elevated to the rank of an order and will stand in the same relationship to *Spermacoceæ* that *Nyctagineæ* does *Plumbagineæ*.

P. S. subsequent examination has left no doubt on my mind on this point.

1043. VALERIANA BRUNONIANA (W. & A.:) herbaceous, glabrous or very slightly puberulous: stems erect with 1-2 pairs of leaves near the root, and another small pair about the middle, slightly hirsute on the knots: leaves somewhat fleshy; lower ones quite entire, ovate, bluntly acuminated, long-petioled, the radical one often emarginate at the base; uppermost or small pair somewhat sessile, narrow oblong, entire or toothed along the margin: corymb terminal, trichotomous, panicled, with a pair of foliaceous bracteas similar to the uppermost leaves subtending the principal branches: corolla 5-cleft: fruit linear-oblong, glabrous.—*W. and A. Prod. p* 443.

Common in pasture lands on the Hill sides all over the hills, flowering during the rains. It generally attains a larger size than the specimen represented: In the figure the pubescence is a little too distinct but it varies in that respect.

1044. VALERIANA LESCHENAULTII (D. C.) herbaceous: stem erect, simple, with the knots hairy, otherwise glabrous: radical leaves petioled, ovate, obtuse, crenated, hirsute on both sides; stalk-leaves remote, small, sessile, the uppermost cut in a pinnated manner into 3 5 linear glabrous lobes, the odd one the longest: corymb contracted: fruit villous.—*W. and A. Prod. p.* 444.

This, like the preceding, grows in pastures, but prefers richer soil and shade, being met with about the skirts of woods in moist soil: though nearly allied, it seems distinct from the other both in characters and habit. In my specimens the leaves and petioles are ciliate. The fruit in this is pentangular, in that compressed, furnished with 3 hairy nerves on one side and one on the other.

1045 & 6. VALERIANA ARNOTTIANA (R. W.) herbaceous, erect puberulous: radical leaves on long petioles, unequally pinnated; about 2 pairs and an odd one; lower pair of leaflets alternate, upper pair opposite, all ovate or ovate-cordate, grossly, crenate-serrated, the odd one much the largest; cauline ones unequally pinnate about 3 pairs; leaflets ovate or cordate, crenately dentate, obtuse, slightly acuminate: panicle large diffuse, divisions dichotomous: corolla 5-cleft, fruit compressed, 3 ribbed on the one side, one on the other, very hairy between.

In woods near Sisparah, on the Neilgherries, also on the Pulney mountains, flowering April and September. This appears very distinct from *V. Hookeriana* the species to which it most nearly approaches.

EXPLANATION OF PLATES.

VOL. III.—PART IV.

1047. Capparis pyrifolia (Lam.) stipules thorny, short, hooked: leaves between ovate and oval-lanceolate, mucronate; the younger ones densely pubescent, older ones glabrous: pedicels short and stout, axillary, solitary, 1-flowered, 2-3 times longer than the petiole: ovarium narrow-oblong, glabrous, furrowed.—*W. and A. Prod. p.* 25.

A low thorny shrub with spreading branches: it rarely attains over two feet in height but the lateral branches cover a larger space. The flowers are large and handsome, but very fugacious. Frequent towards the bottom of the Neilgherries on their Eastern aspect flowering the most part of the year, but in greatest perfection during the cool season immediately after the rains.

1048. Capparis Roxburghii (D. C.) shrubby: stipules thorny, recurved, hooked: leaves elliptic-oblong, obtuse, tapering at the base, glabrous: racemes terminal, corymbiform, leafless: ovarium obovoid?: berry globose, many-seeded.—*W. and A. Prod. p.* 26.

A large diffuse very ramous shrub: flowering in April and May. The only plant I recollect having seen grows near the foot of the descent from the Neilgherries by the Coonoor road. It forms a large straggling climbing bush: the prickles on it are always small and often altogether wanting. Flowers pure white and very evanescent—I was not so fortunate as to find mature fruit, but judging from the remains of one hanging on the bush, they seem to be about the size of small Billiard balls.

1049. Impatiens Munronii (R. W.) erect sparingly ramous: leaves crowded towards the summits of the branches ovate, slightly serrated, acute, hairy on both sides: pedicels axillary, solitary, one flowered, about the length of the leaves, furnished near the base with a minute bractea, lateral sepals ovate, toothed at the apex; posterior concave helmate shaped, surmounted by a membranous crest; lower one terminating in a conical hooked very hairy spur: lower lobes of the petals a little larger than the upper.—*R. W. Illust. In. Bot.* 1 *p.* 160.

Neilgherries in Jungles near Sisparah, February 1845. This seems an almost suffruticose species: it grows among bushes completely shaded from strong light. All those that I saw seemed to have naked stems a few straggling branches tipped with a bunch of leaves from the axils of a few of which the curious shaped flowers spring—Found in flower in February, but apparently at that season past its prime.

1050. Impatiens Gardneriana (R. W.) diffuse, nearly glabrous, at first procumbent, rooting at the joints, afterwards ascending: leaves verticelled in threes, short petioled, ovate, lanceolate, acutely serrated, some of the serratures bristle pointed: pedicels solitary, longer than the leaves, filiform: lateral sepals ovate, acuminate, shorter than the petals; anterior ovate pointed, with a filiform spur as long as the flower and slightly gibbous at the point; posterior about the length of the posterior lobes of the petals: petals obovate, very obtuse, the upper lobes a little shorter than the larger anterior ones: capsule oblong, pointed, small, glabrous.

Western slopes of the Neilgherries about 5 miles below Sisparah in moist pasture, flowering in January and February.

I dedicate this species to my friend George Gardner, Esq., superintendent of the Royal Botanic Garden, Ceylon, who accompanied me during the excursion, in the course of which we found this and many other interesting novelties.

A very slight error of the draftsman has been so greatly magnified between the transferrer and printer that a plant almost glabrous, or with merely a few hairs scattered on its surface, has come out of their hands decidedly hirsute, the character is correct, the figure is wrong.

"In the plate will be found two sets of diagrams A and B elucidating the views of Messrs. Kunth and Roeper—A representing the position of the parts as understood by Kunth, B as understood by Roeper. In these diagrams the dark lines a,a,a,a,a, represent the parts respectively called sepals by these savants, and the double lines, b,b,b,b,b, the petals. From these it will be seen at a glance that, while Kunth allows only four petals, united by pairs, and 5 sepals, the upper two of them united into one, that Roeper accounts for only three sepals constantly present and 2 minute ones only occasionally found, but gives the full number of petals as always present; the upper or posterior compound sepal of Kunth being viewed by him as the anterior petal, he accounting for this reversed position of the flower on the supposition that the pedicel has got a twist in the course of its growth, a view which is supported by analogy, a similar disposition of parts being met with, in both *Tropæolum* and *Pelargonium* two nearly allied tribes. And is still further supported by the genus *Hydrocera* which is simply a regular flowered Balsam. The two dissected flowers given in the plate are similarly marked so as to show by the corresponding letters, the parts indicated in the diagrams: the other figures require no explanation."—*R. W. Neilgherry plants.*

1051. Malope Indica (R. W.) leaves simple obovate cuspidately acuminate.

Woods near the Avalanche, Neilgherries; flowering and in fruit in February.

A large shrub or in favourable situations a small tree. Of this species two plants only were found, one on the bank of a stream in a deep ravine which had attained the size of a tree, the other a large very ramous shrub, in a jungle by the road side going to Sisparah near the top of the ascent. The leaves are subalternate, petioled, glabrous, shining, from 3 to 4 inches long by about half the breadth, broader above and tapering slightly towards the petiol, ending abruptly in a short acumen. Flowers long peduncled, about 3 together on the apex, pale yellow: calyx 4 sepaled: petals 4: stamens 8: ovaries 4, cohering below free at the apex, with 2 ascending ovules in each: styles 4 free below, apex and stigmas cohering. As the fruit advances one of the ovules abort and the other becomes pendulous: capsules 4, coriaceous, devaricated, dehiscing above: seed solitary in each, ovate; testa bright shining, nearly, black, composed of two easily separable coats; external tunic, in the dried specimen, loose and fragile, interior hard and bony. Embryo foliaceous, radicle pointing to the hilum inclosed in a fleshy albumen.

The other 2 species of this genus are both natives of New Zealand. I have therefore given this a geographical specific name though a more appropriate one might easily have been found. The genus seems very nearly allied to *Zanthoxylon*, differing principally in the stamens being double the number of the petals. In habit and general appearance, they nearly agree, and the seed of this plant accurately corresponds with the description of those of *Zanthoxylon*.

MICROTROPIS.

Calyx 5 parted imbricated. Corolla 5-petaled perigynous inserted into the outer edge of an annular disk, æstivation imbricated. Stamens alternate with the petals rising from the edge of the disk. Anthers introrse, dehiscing longitudinally, sometimes alternating with short epipelatous scales (squamulæ 5, breves, epipetalæ staminibus alternates. Arn.) Ovary semi-superior 2-celled with 2 dependent collateral ovules in each: style short, conical: stigma obtuse, obscurcly four-lobed. Capsule superior 1-celled, two-valved, but usually dehiscing on one side only. Seed solitary, rarely paired, erect: testa thin, succulent, coloured. Embryo erect, enclosed in a copious firm tenacious albumen. Cotyledons foliaceous. Radicle cylindrical.

Shrubs or trees, leaves entire opposite, exstipulate, glabrous, shining, coriaceous. Cymes axillary or from the scars of fallen leaves, either furnished with longish peduncles or subsessile, forming dense capitulæ on the older branches. Flowers small white, sepals and petals orbicular concave, very coriaceous. Fruit capsular, oval oblong pointed with the persistent base of the style; capsule corticose, (resembling bark in colour and texture) testa thin, friable, somewhat resembling semi-indurated pulp, and, in all species I have seen, deeply coloured: albumen tenacious, translucent, easily sectile: cotyledons, when fresh, green.

This genus was named by Dr. Wallich, but without a character, in his List of Indian plants. Lindley adopted it in his Natural System but without defining it. Drs. Meisner and Arnott having got specimens, both published characters quite independent of each other. Their generic characters are both good so far as their imperfect materials enabled them to go, but both admit of alterations. The materials in my hands being more perfect than those they had, has induced me to endeavour to render more perfect their characters. The part I have described as the testa of the seed, Roxburgh has called an arillus ("*Semina solitaria arillo tenui succulento involuta.*" Arnott from Roxb.) I do so from finding no other part corresponding to that organ, from its completely investing the seed, without any opening, which a true arillus must have, and from its being distinctly vascular, showing that it cannot be merely indurated pulp. I have not observed in any of the Hill species the epipetalous scales mentioned by Arnott. In Arnott's character the ovules are said to be ascending, in all the Neilgherry species the ovules are pendulous, the seed erect, and the radicle inferior. How this change of position is brought about still remains for investigation.

When Dr. Arnott published his remarks on this genus, he doubted whether it belonged to this order, a point on which there cannot, I think, be any longer a doubt, even supposing the corolla gamopetalous. This it certainly is not, but polypetalous, the petals attached to a disk. This structure is most easily made out in the unopened flower bud.

1052. Microtropis densiflora (R. W.) leaves short petioled broad oval obtuse, somewhat attenuated towards the base, coriaceous, glabrous: cymes axillary, erect, compact, many flowered; much shorter than the leaves: capsule slender cyclindrical, pointed, 2 valved: seed like the capsule, testa crimson coloured.

On the western slopes of the Neilgherries below Sisparah in dense jungles, flowering and bearing ripe fruit in February.

This seems a very distinct species from any of those previously figured, it forms a large straggling shrub or small tree. The dense almost capitate clusters of flowers combined with the long slender fruit, are very characteristic and the outline of the leaves is besides very different from that of all the others.

1053. Euonymus angulatus (R. W.) arboreous, ramuli prominently 4 angled and furrowed between: leaves ovate lanceolate, acuminate, quite entire, glabrous: cymes axillary, dichotamous, lax: flowers long pedicelled: calyx fimbricated on the margin, petals orbicular: cupsules turbinate 5 celled: cells by abortion 1 seeded, seed partially enclosed in an arillus accompanied by the remains of the aborted ovule.

Slopes of the Neilgherries below Sisparah on the banks of streams. The flowers, owing to the size of the cymes, are more conspicuous than in any of the others I have seen. They are of a dull purple colour, the specimens were gathered in February and as they were accompanied by ripe fruit, the tree is probably in flower most part of the year.

1054. Edwardsia Madraspatana (R. W.) leaflets about 25, glabrous, from elliptic to sub-ovate obtuse, mucronate, or frequently retuse at the apex: racemes axillary or terminal, very slightly pubescent, many flowered: calyx cup shaped, slightly oblique, 5 toothed: legumes villous.

Balaghaut mountains near Madras.

My collectors brought me seed of this plant some years ago, which were transmitted to the Calcutta Botanic Garden and there vegitated. From these plants the specimen represented was taken. Owing to some error whether of the Draftsman or Lithographer or both, (I have not the original drawing by me to ascertain the point,) the petioles and flower bearing branches are represented densely hairy, while the specimens are so slightly purbescent that a magnifier is required to detect its presence. I suspect the error is principally attributable to the transferer, but be that as it may it is an error as the plant might without much impropriety be described as glabrous. I am indebted to the kindness of Dr. Wallich for the drawing from which the figure is taken, as my specimens were not in flower.

I possess a somewhat imperfect specimen of what appears to be a new species from China, it is not in fruit, but the calyx and flower are unquestionably those of an *Edwardsia* it may be thus defined.

E. parvifolia (R.W.) every where glabrous; leaflets about 7 from ovate attenuated towards the apex, to elliptic, mucronate: racemes axillary, congregated towards the extremities of the branches, many flowered: flowers secund: calyx cupshaped obtusely 5 toothed, glabrous; filaments about the length of the corolla free to the base, ovary slender glabrous, ovules about ten.

The flowers so far as I can judge from indifferently dried specimen are well represented in the accompanying drawing of E. Madraspatana. I am indebted for the specimen to Asst. Surgeon Dorward of the Madras Establishment, who during a short residence collected a considerable number of plants which he kindly communicated.

1055. Taverniera cuneifolia (Arn.) leaves petioled 1-foliolate, from the almost constant abortion of the lateral pair; leaflet from orbicular to obovate-cuneate, recurvedly mucronate, thickish, glabrous or pubescent: peduncles short, from the exils of leafless stipules bearing, towards the apex, from 1 to 4 shortly pedicellate flowers: legumes with the inferior joint abortive stipitiform, the superior one unequally, obovate, echinate, with rigid hooked bristles.—*Arn. pugillus.* 14.

The drawing, for which I am indebted to Dr. Wal-

lich was taken from plants raised in the Calcutta Botanic Garden from seed communicated by Dr. Gibson. It is a native of Mysore extending northwards in the direction of the Western Ghauts. I have never met with it in the Southern provinces.

1056. Nicolsonia congesta (R. W.) suffruticose, very diffuse, procumbent, all the young parts except the upper surface of the leaves pubescent or hairy: leaves 3 or by abortion 1 foliolate, leaflets elliptic or suborbicular, mucronate: flowers congested on the extremities of the branches: calyx 5 parted; segments subulate hairy, longer than the corolla: stamens diadelphous: ovary with a single ovule: (always?) legume 1 seeded.

Pycarrah, Neilgherries, on the banks of the river, abundant—I have also met with it at Ootacamund but very rare. This plant has the appearance of being a true Nicolsonia notwithstanding the descrepancy between the generic character and my plant as regards the legume 'constans articulis plurimis' as I find on referring to D. C.'s figure that his specimens had one or two, and an ovary with 3 ovules. In my plant the ovary (fig. 6) is represented with a single ovule whether or not that is always the case I am unable to say.

1057. Sonerila versicolor (R. W.) herbaceous; stems erect roundish hairy afterwards glabrous, marked with a slight decurrent rib from the insertions of the leaves: leaves opposite ovate or slightly unequal at the base, acute or somewhat acumenated, crenulate, pubescent on both sides; penninerved: peduncles axillary and terminal: racemes curved secund many flowered: calyx glabrous: petals obovate cuspidate: anthers cordate at the base, rostrate: style equalling the stamens: stigma obtuse: capsule clavate, trigonous, with a prominent nerve between the angles.

Western slopes of the Neilgherries below Sisparah among grass and low jungle.

The under surface of the leaves is usually dark crimson or purplish, flowers pink; in the earlier stages the whole plant is sprinkled over with scattered hairs but afterwards the stalks are nearly glabrous. It seems nearly allied to *S. Brunonis* but is at once distinguished by its penninerved leaves, and obovate petals; it seems still more closely allied to the following form which it is distinguished by its long curved many flowered racemes; the form of its petals, and more copious pubescence.

1058. Sonerila axillaris (R. W.) herbaceous erect sparingly sprinkled all over with hairs: stems terete: leaves opposite or subalternate, long pitioled, ovate or subcordate at the base, acuminate, sparingly hairy above, nearly glabrous beneath: peduncles axillary erect, about the length of the petioles, few flowered: calyx limb 3 lobed, lobes pointed deciduous: petals elliptic mucronate: anthers rostrate: style the length of the stamens: capsule clavate, somewhat triangular, 6 nerved, glabrous.

Western slopes of the Neilgherries two or three miles below Sisparah: frequent by the road side, flowering December and January. My specimens were gathered in February, but I only succeeded in obtaining one or two in flower. It seems a very distinct species, its nearest neighbour being, apparently, the preceding.

1059. Sonerila Brunonis (W. & A.) herbaceous: stems (about a foot high or more) erect, branched; branches acutely 4-angled, glabrous: leaves long-petioled, ovate, bristle-serrated, 5-7-nerved at the base, hairy or at length glabrous: peduncles terminal, longer than the leaves: flowers unilateral, longish-pedicelled, racemose: calyx glabrous: petals lanceolate, pointed: anthers ovate, short-pointed: style about the length of the stamens: stigma capitate: capsules turbinate, 3-sided, strongly and prominently 6-ribbed, three of the ribs forming the angles, the other three on the sides.—*W. and A. Prod. p.* 321.

The specimens from which the figure was taken were gathered at Courtallum in 1836, in general habit and in the form of its capsule, it approaches both the preceding, but is amply distinct from both.

1060. Eugenia (Syzygeum) montana (R. W.)—arboreous, young shoots acutely 4 angled the sides depressed or concave between: leaves coriaceous from obovate bluntly acuminate to suborbicular, short pitioled: cymes terminal corymbose many flowered, each extreme division terminating in a fascicle of three flowers: flowers small: petals adhering and separating as one: calyx obtusely 4 lobed persistent, crowning the fruit: fruit globose about the size of a currant purple:

Neilgherries not unfrequent in woods, sometimes attaining a large size. This species is very nearly allied in many respects to Moons, *E. sylvestris* but is certainly distinct. Its most characteristic feature is the form of the young shoots which are prominently 4 angled with concave sides between. In the specimen figured the leaves are represented as occasionally alternate. This form, however, is of rare occurrence, and, though it certainly does occasionally present itself, cannot be admitted as part of the specific character.

1061. Haloragis oligantha (W. and A.) herbaceous?, glabrous, procumbent: leaves alternate, narrow-linear, tapering at both ends, serrated towards the apex: flowers minute, axillary, solitary, sessile: calyx-tube marked with four projecting angles: petals linear-lanceolate, obtuse, much longer than the segments of the calyx: stamens 4: stigmas 4, large, sessile, pappulose: nut muricated, 1-celled, 1-seeded.—*W. and A. Prod. p.* 338.

This plant occurs in great abundance in shallow water in the lake at Ootacamund and in marshy ground along its borders. I have also seen specimens from Ceylon, but more abundantly covered with fruit.

1062. Hedera acuminata (R. W.) arboreous, glabrous; leaves unequally pinnate many paired, leaflets oval-oblong acuminate short petioled: thyrses numerous elongated, peduncles, involucrate at the base with minute subulate bracts: flowers very numerous, short pedicelled, forming subcapitate umbels, each having a minute caducous bractiole at the base: calyx 5 lobed petals expanding: styles 5 free at the apex: ovary 5 celled with a pendulous ovule in each: fruit—

Cortallum and on the western slopes of the Neilgherries about 2 miles below Sisparah. Apparently a small erect growing tree. The plant from which the specimen represented was taken had been injured and six or eight tall, erect, luxuriant branches had sprung from the stump. The wood appears very soft; the larger leaves were full 2 feet long and the leaflets twice or thrice the size of those in the plate. As a species it seems nearly allied to Don's *H. Jackiana*, if not indeed the same plant, a point his character does not enable me to determine with certainty, but I think they must be distinct as the characters differ in several points. I have not seen the fruit.

1063. Loranthus (Scurrula) Euphorbiæ (R. W.) glabrous, erect, very ramous, branches terete: leaves short petioled, elliptic or orbicular, with a tendency to attenuation downwards, succulent when dry obscurely

3 nerved, veinless when green: flowers sessile, axillary or fascicled round the knots of the branches: bractea lateral, embracing the base of the ovary, very obtuse: calyx truncated entire: tube of the corolla terete, limb elongated indurated, acute before expansion, lacineæ subulate, becoming elastically involute on dehiscence: filaments red; anthers subulate: stigma clavate, berry red about the size of a small bean.

Frequent about Coimbatore parasitic on *Euphorbia antiquorum* and *tortilis*, flowering in July. Very nearly allied to *L. elasticus*, but I think quite distinct; differing in the form of the leaves and in their being only 3, not 5 nerved. The flowers of this are slender, about an inch and a half long, one-third of which only is truly petaloid, forming the proper tube; the limb is firm and coriaceous, at first bursting with elasticity, and then becoming spirally involute like the main spring of a watch. The whole plant is exceedingly fragile, and will scarcely bear the gentlest handling, all tumbling to pieces in drying. The juices of this plant do not show a trace of milkiness.

1064. STYLOCORONE RIGIDA (R. W.) shrubby, glabrous: leaves elliptic shortly acuminate at both ends, coriaceous shining: cymes terminal and from the axils of the upper leaves, compact, trichotomous: calyx limb 5 cleft, lobes obtuse, nearly equaling the tube of the corolla: corolla 5 cleft, tube short, with a ring of hairs within below the stamens throat hairy, limb spreading or reflexed, segments obtuse, villous near the base: anthers linear, cuspidate: ovary 2 celled with numerous ovules.

Neilgherries in woods near the Avalanche Bungalow, flowering February and March. The mature fruit I have not seen. The leaves on the flowering branchlets, are about 2½ inches long and about half as broad; below they are considerably larger; of a very firm rigid texture, the transverse veins large and prominent on both sides: the young shoots, and peduncles, thickly covered with an abundant resinous exudation. This, as compared with several other species in my herbarium, is a very distinct one: it comes nearest Moons *S. cerefera* of which I have an indifferent specimen but is I think distinct.

1064. (*bis.*) CANTHIUM NEILGHERRENSE (R. W.) shrubby or subarboreous unarmed, branchlets obsolately 4 sided glabrous: leaves short petioled, ovate, bluntly acuminate, membranous; nearly glabrous above, hirsutulate beneath: peduncles axillary, about the length of the petioles, bearing a small umbel of from 5 to 7 flowers, furnished with subulate bracts: calyx limb truncate 5 toothed: corolla 5 cleft, throat hairy: stamens short nestling among the hairs: ovary 2 celled, 1 pendulous ovule in each: stigma capitate: drupe glabrous obovate compressed succulent.

Sisparah on the Neilgherries in jungles flowering most part of the year. Leaves 4-5 inches long about half as broad, ending in a short obtuse acumen, thin and membranous: flowers small white very hairy in the throat fruit succulent glabrous pale yellowish or cream coloured

1065. PAVETTA BRUNONIS (Wall.) soft and villous all over: leaves obovate: stipules and bracteas broad, membranous: peduncles trichotomous, having the branches dense and corymbose: lobes of the calyx subulate. —G. Don.

Northern slopes of the Neilgherries flowering April and May. This seems clearly the plant described by Mr. Don, the only difference being that here the lobes of the calyx are not subulate, I do not however think it can be kept distinct from *P. Rothiana*, supposing this to be truly Wallich's plant, it differs from Roths character and description, but not sufficiently so, at least in my estimation, to constitute it a distinct species. In Roth's plant the leaves are described as elliptic sprinkled with short hairs, here they are obovate shortly and bluntly acuminate and clothed on both sides with soft short villi. This seems the only difference: in his the calyx is described as very minute "dentibus triangulis obtusis" which is the case here. There is no station assigned to Roth's plant, Neilgherries is appended to this—but I have other specimens from Malabar and Mysore, the latter being the country, where most of Heyne's plants were collected. The similarity of the two plants, to each other did not strike me when naming the drawing, otherwise I think, I should have given this the older name.

1066. IXORA POLYANTHA (R. W) shrubby, every where except the inflorescence glabrous, leaves elliptic oblong obtuse or sometimes bluntly acuminate: stipules acuminate or subulate, pointed: corymbs terminal, contracted, many flowered, branches and tube of the calyx densely hairy: scariose bracts and ovate lanceolate acuminate lobes of the calyx glabrous: calyx limb 4 parted, divisions subulate pointed: corolla glabrous, tube long, slender, limb 4 cleft, segments obtuse reflexed: style exserted, stigma 2 lobed.

Calicut, Malabar, flowering in March. I have not seen the growing plant, but judging from a coloured drawing and specimens it seems to be a very handsome shrub. The larger leaves exceed a foot in length and are about 6 inches broad. The very dense hairy corymbs, scariose bracts, and large 4 parted limb of the calyx, at once mark this as a peculiar and distinct species.

1067. OPHIORRHIZA ERIANTHA (R. W.) suffruticose, erect, nearly glabrous, except the young shoots and inflorescence: leaves elliptic, lanceolate acuminate, tapering at the base: stipules about the length of the petioles subulate: bracts long filiform and with the calyx and corolla hairy: corolla funnel shaped, tube glabrous within, much longer than the dilated 5 cleft limb: stamens and style included: stigma deeply 2 cleft.

Western slopes of the Shevagherry mountains under the shade of brush wood. Leaves from 5 to 6 inches long, and from 1½ to 2 broad thin and membranous, terminating in a slender acumen: cymes terminal compact hairy: anthers linear blunt: seed irregularly angled.

1068. OPHIORRHIZA ROXBURGHIANA (R W.) suffruticose erect or somewhat diffuse; young shoots and corymbs villous: leaves from ovate to oblong-lanceolate, acuminate, glabrous, except the veins, on the under surface: Stipules lanceolate acute, shorter than the petioles: corymbs terminal congested, villous: bracts narrow linear lanceolate and with the calyx hairy: corolla funnel shaped, tube much longer than the dilated 5 lobed limb, villous without hairy within: style and stamens included: anthers linear acute: stigma dilated 2 lobed.

Shevagherry mountains with the preceding near the base on the western face, August 1836. This though a nearly allied species is quite distinct from the preceding.

1069. OPHIORRHIZA GRANDIFLORA (R. W.) suffruticose erect glabrous: leaves ovate lanceolate acuminate: stipules minute triangular: corymbs terminal glabrous: bracts linear subulate and like the calyx glabrous: corolla funnel shaped, a few hairs near the base, and along the veins; tube much longer than the dilated limb, glabrous within: style and stamens included: stigma tapering to a point 2 cleft.

Shevagherry mountains with the 2 preceding species. The corolla in this is nearly an inch and half long. It

is distinguished from the preceding by its minute stipules, glabrous calyx, and the want of hairs within the tube of the corolla.

LAWIA (R. W.)

GN. CHAR.—Calyx limb 5-6 parted. Corolla tubular gibbous at the apex; limb 5-6 cleft. Stamens 5-6 attached to the very base of the corolla, filaments very short. Ovary 5-6 celled; ovules numerous; placentas free attached by a short pedicel to the inner angle of the cell. Seeds numerous, small, irregularly shaped, (resembling grains of gun powder) black.

Herbaceous plants, puberulous all over; leaves longish petioled, oblong-oval, acuminate at both ends, membranaceous, transversely veined; deep green above, glaucous beneath. Stipules triangular acute. Cymes terminal twice or thrice trichotomous lax; each division embraced by two connate membranaceous bracts: flowers yellow pedicelled, small: calyx tube short campanulate; limb deeply cleft into 5 or 6 narrow somewhat subulate divisions: corolla tubular about the length of the calyx 5-6 cleft, somewhat hairy within, yellow: stamens very short, apparently scarcely attached to the corolla: style short: stigma large 5-6 lobed, segments acute.

In dense jungles about Courtallum and Shevagherry, flowering and bearing ripe fruit in August and September. I have dedicated this very distinct genus to my valued correspondent J. S. Law, Esq., of the Bombay Civil Service; an enthusiastic Botanist, who in the midst of the fatiguing duties appertaining to the office of a Collector, still finds some leisure for the prosecution of his favourite pursuit, and has made many valuable additions to my collection, from that side of India, of plants not found to the Eastward of the Ghauts. This genus seems clearly referable to the tribe Hameliæ of D. C. and is the only one so far as I know belonging to the Flora of the Indian Peninsula.

1070. LAWIA ACUMINATA (R. W.)
Courtallum and western slopes of the Shevagherry mountains, flowering in August.—*See Calcutta Journal of Nat. History, vol.* 6.

1071. SCUTEA RHEEDIANA (R. W.) shrubby, armed with a few scattered recurved prickles: leaves subopposite approximated, from broad ovate to orbicular, tipped with a minute point, conspicuously, parallel-veined, bright green above subglaucous beneath: ovary 2 celled; fruit 2 celled: seed compressed.

Neilgherries abundant near Kaitie Falls, apparently in flower at all seasons.

This seems very distinct from *S. Indica.* When naming it I thought it Rheede's plant, to which it bears a considerable resemblance, but he represents the fruit with 5 seed, in both his figures, a form I have not yet met with, and, if that part of his figure is correct, I doubt whether his plants belong to this genus. This I have never seen with more than two. It is at once distinguished from *S. indica,* by the venation of the leaves, which in this is prominent on the upper surface, running in parallel curved lines from the costa to the margin; while in that, it is barely conspicuous and at irregular distances: the leaves in this are besides ovate, or approach that form, while in that they are cuniate or obovate: this is nearly unarmed, while the ramuli of that are constantly furnished with numerous stout recurved prickles.

1072. POLANISIA BURTPORENSES (Munro) stem together with the leaves thickly covered with prickly hairs: leaves simple! oblong-lanceolate acuminated; radicle ones attenuated into a petiole; cauline sessile: stamens 10-12: siliqua linear, not compressed, sessile, about the length of the peduncle.

Plains of Roobass near Bhurtpore, flowering in September. Flowers rose coloured.—*Munro Hort. Agrensis p.* 35.

I am indebted to Captain Munro, H. M. 39th foot, for the drawings and characters of this, and the two following plants.

1073. CORCHORUS HUMILIS (Munro) perennial prostrate: leaves ovate crenate long petioled: peduncles 2 flowered: capsules linear, oblong 6-8 times longer than broad, nearly glabrous, 4-5 celled, 4-5, valved; septa nearly obostate.—*Munro, l. c.*

"A small prostrate plant growing in very hard dry soils. This may be *C. prostratus.* Royle who, however, gives no character."—*M.*

MONSONIA CHUMBALENSIS. (R. W. *Erodium Chumbalense,* Munro).

1074. (ERODIUM CHUMBULENSE Munro.)—Annual, with a short decumbent stem covered with glandular hairs: leaves long petioled, oblong, cordate, crenated: peduncles one flowered, thicker towards the top, jointed near the base, furnished at the joint with two bracteas: sepals pointed: carpels including the awns nearly 2 inches long.—*Munro, l c.*

Chumbul, near Agra in ravines. "I believe it is the first instance of an Erodium having been found on the plains of India."—*M.*

As this is certainly a species of *Monsonia,* I have changed Captain Munro's generic name but for the present retain the specific one, though I suspect it is identical with *Geranium Lawianum* of Graham's catalogue, because the drawing differs somewhat from specimens of that plant communicated by Mr. Stokes of Bombay, under the name of *Monsonia Lawiana* a full description of which will soon appear in the Calcutta Journal of Natural History under the following specific character.

M. Lawiana (Stokes) densely clothed with lymphatic glanduliferous pubescence; leaves ovate-cordate, acuminate, dentate: stipules and bracts herbaceous: peduncles axillary 1 flowered: carpels obliquely truncated at the apex hispid.—The peduncles are long, jointed near the base, and when in fruit, twice bent, somewhat resembling the long form of the letter *ƒ* inverted thus ʔ.

1075. VOGELIA INDICA (Gibson M.S.S.) leaves ovate obtuse roundish at the base perfoliate.—R. W.

Found by Dr. Gibson of Bombay, near Heura, to whom I am indebted for the specimens from which the drawing was taken. The station given is "Humicul Ghaut" leading down to Sungumnure in the Deccan.

A large shrub from 6-10 feet high with cylindrical ramuli and ovate obtuse coriaceous glabrous perfoliate leaves. Inflorescence paniculately spicate; flowers closely congested on the extremities of the branchlets forming a conical spike. Calyx five sepaled; sepals lanceolate corrugated on the margins. Corolla tubular 5 cleft æstivation convolute; lobes reflexed obcordate mucronate. Stamens included. Ovary superior one celled with a solitary ovule pendulous from the apex. Style

filiform stigma 5 cleft. Capsule 5 valved separating from the seed. Seed ovate, pendulous; embryo foliacious, enclosed in a farinaceous albumen.

I have to apologize to Dr. Gibson for not introducing some alterations and corrections which he suggested on the drawing being submitted to him for comparison with growing plants. This originated in his letter having been mislaid and supposed lost when sending the drawing to the printer. Since then I have found it, and will do what I can towards correcting the first error by introducing some extracts here, premising, however, that the outline of the figure correctly represents the specimens first sent and that the errors are confined to some of the details.

"1st. The leaves are considerably too lanceolate only the younger ones are generally acuminate the older ones rounded and sometimes crenate."

"2d. The leaves have not the net work of veins shown, but simple cross veins faintly visible; colour of the leaf light glaucous or sea green texture almost coriaceous." [The veinous net work is certainly more distinct in the drawing than the specimen, but being on a white ground that is unavoidable, it however exists in the original.]

"3d. Folia majora firme, semper margine retroversa."

"4th. The inflorescence is much too panicular it should be more of a spike with a few branchlets, rather converging than diffuse, the inflorescence also is too rounded at the ends it should be considerably more conical." [As regards the outline of the inflorescence the figure is correct for the specimen, which was the most luxuriant of those sent. For the rest I cannot so well speak now as most of the flowers, owing to its having got wet and injured in coming, fell off almost immediately after it was opened.]

"5th. The same remark applies to the petals as drawn previous to expansion: they are pointed, not rounded and ventricose as in the drawing. Æstivation is convolute as in *Apocyneæ*."

These remarks are introduced in the hope that they will tend, with the aid of the figure, to convey a more correct idea of the varying forms of the plant, than even the most correct figure of any one of them could give.

1076. Vernonia conyzoides (D. C.) suffruticose, erect, striated, shortly pubescent: leaves ovate, or oblong lanceolate, acuminated, attenuated into a short petiole, serrated; glabrous above pubescently villous beneath: corymb compound, ramous, polycephalous: scales of the involucrum linear lanceolate, acuminated, pubescently villous, shorter than the disk.—*D. C. Prod.* 5-25.

On the plains, this is comparatively a small plant; on the Neilgherries, especially, when growing among bushes where it finds support, I have seen it 10 or 12 feet in height. Flowering time February and March, flowers rose coloured.

1077. Vernonia pecteniformis (D. C.) shrubby, branches terete smoothish, younger ones angled, pubescent: leaves short petioled, lanceolate, acuminated, pectinately and deeply serrated, membranaceous; glabrous above pilose beneath: cymes terminal, corymbose, naked: capitula long pedicelled, many flowered, ovate: scales of the involucrum dry, glabrous, ciliated, ovate, oblong, subacute.—*D. C. Prod.* 5. *p.* 31.

I have compared the Neilgherry plants from which the drawing was made with the Dindigul one examined and named by DeCandolle and cannot find any permanent difference, where a number of specimens are under examination: I therefore think the two plants should be united as 1 species. *V. Pecteniformis* being the older published name by 2 years and moreover feeling sure that this species, I adopt it.

1078. Vernonia Nilgherryensis (D. C.) herbaceous, roundish, subpuberulous: leaves short petioled ovate acuminate, prickly serrated; rough above, tawny coloured beneath: cymes terminal panicle-shaped, branches very ramous polycephalous: capitulæ ovate crowded 2-5 flowered: scales of the involucrum dry, oval oblong acute, glabrous, pilose at the apex: achænium glabrous: external series of the pappus very short deciduous.—*D. C. l. c.*

A large annual, common in hedges on the Neilgherries, flowering in March and April: flowers pale pink. This plant is so exceedingly like *Decaneurum divergens* that they can only be distinguished by a reference to the generic character.

1079. Vernonia salvifolia (R. W.) shrubby tomentose: leaves long narrow lanceolate, rugose, glabrous above, densely white—tomentose beneath: corymbs axillary and terminal naked or with a few small scattered leaves: capitulæ numerous, densely aggregated, subsessile, many flowered: involucrum subcampanulate tomentose: scales lanceolate, subacute, callous at the apex: achænium glabrous somewhat 4 angled, the sides sprinkled with glutinous points, exterior pappus paleaceous.

Courtallum. This species is nearly allied in habit to *V. Wightiana*, Arnott, but is certainly most distinct in its characters.

1080. Decaneurum reticulatum (D. C.) stem suffruticose, erect, ramous, every where rough with bristly hairs: leaves sessile, ovate, mucronate, and mucronately sub dentate; rough above, densely whitish tomentose beneath; nerves and veins scabrous reticulated: peduncles few, axillary and terminal, capitulæ closely embraced by numerous foliacious bracts; interior scales of the involucrum scariose, glabrous, longer than the bracteas.—*D. C. Prod.* 5. *p.* 866.

Neilgherries, frequent on the banks of streams all over the hills, and in flower nearly all the year; but in greatest perfection from June to September. Plant from 2 to 4 feet high flowers purple.

1081. Decaneurum Courtallense (R. W.) stems scabrous, suffruticose, erect, ramous: leaves attenuated into the petiole, ovate lanceolate obtuse, slightly mucronate-dentate; rough above, softly whitish tomentose beneath, at first uniformly white afterwards reticulately veined: peduncles axillary 1-cephalous capitulæ closely bound by several ovate-obtuse mucronate 3 nerved bracts: interior scales of the involucrum scariose, glabrous, longer than the bracts.

Courtallum flowering in February, this species seems intermediate between *D. reticulatum* and *molle* but very distinct from both.

1082. Decaneurum molle (D. C.) stem herbaceous erect, somewhat scabrous, tomentose towards the apex: leaves attenuated into the petiole, ovate lanceolate acuminate, coursely and irregularly serrated; above setosely scabrous or nearly glabrous; beneath whitish tomentose: interior scales of the involucrum scariose, glabrous, subacute.—*D. C. l. c. p.* 67.

This seems to be a widely distributed and variable species. I have specimens from the Southern extremity of the Peninsula and others communicated by Mr. Law, from the vicinity of Bombay. Between the Southern and Northern forms there is considerable dif-

ference but not enough, it appears to me, to constitute them distinct species the principal one being derived from the comparative size of the capitula which may be accidental and confined to my specimens.

1083. Decaneurum silhetense (D. C.) stem herbaceous, erect, ramous: leaves shortly petioled, oblong lanceolate acuminated at both ends, remotely bristly serrated; above glanduloso-scabrous; beneath along the nerves scabrous: capitulæ at the apices of the branches, usually solitary subcorymbose: interior scales of the involucrum oblong mucronate; exterior ones filiform subulate subpatulous a few scattered on the peduncle. —*D. C. l. c.*

Courtallum—February 1836.—The remote Geographical station of my plant from that whence the original was obtained made me hesitate for some time to consider them the same but the characters generally correspond so well that I cannot separate them, though this has white pappus and that red, a difference perhaps depending on accidental circumstances connected with the preservation of the specimen. The stems in my plant somewhat resemble the achenia in having prominent nerves and furrows between.

1084. Decaneurum divergens (D. C.) stem herbaceous, erect, velutino-scabrous, paniculately branched: leaves short petioled, elliptic, acuminated at both ends, dentate; glabrous above, reticulated tomentose beneath: branches of the panicle leafy, elongated, diverging and themselves paniculate: capitulæ crowded on the extremities of the branches, 7-8 flowered: scales of the involucrum oblong acutely mucronate nearly glabrous: achænium glabrous, glandulose.—*D. C. l c. p.* 68.

Neilgherries frequent. It may almost be called a shrub and does not appear to be an annual. D. C. inquires, *an potius vernonia species V. multifloræ proxima ?* The plant here represented certainly is not a *Vernonia* but *V. multiflora* and perhaps *V. Nilgherryensis* may possibly be *Decaneura*. The latter is not distinguishable by any mark except the smooth achænia and it seems to me young specimens only are found to represent it.

1085. Monosis Wightiana (D. C.) Arboreous, branches terete, velutino tomentose: leaves petioled obovate subacute, cuniate and obtuse or subcordate at the base, entire, penninerved, glabrous and somewhat velvetty on the nerves above; velutino hirsute beneath: panicle very ramous, capitulæ sessile at the apices of the subcorymose ramuli: scales of the involucrum obtuse, tomentose on the back.—*D. C. l. c. p.* 77.

A large tree, abundant on the Eastern slopes of the Neilgherries below Coonoor.

1086. Elephantopus scaber (Linn.) stem dichotomous, ramous; strigoso villous: leaves scabrous, radicle ones crenate, cuniate, attenuated at the base; cauline ones lanceolate; floral ones broad cordate acuminate canescent.—*D. C. l. c. p.* 86.

A widely diffused plant—found in Malabar, abundant at Courtallum, in Ceylon, Maulmain, Malacca (?) and elsewhere.

1087. Adenostemma latifolium (D. Don.) stem erect ramous puberulously—hirsute towards the apex: leaves petioled, cuniately acuminate at the base, broadly ovate-rhomboid or subcordate, scarcely acute; coursely serrated and puberulous on the veins: panicle corymbose hairy polycephalous: scales of the involucrum subacute, rou gh on the back: achænia muricately tuberculate.—*D. C. l. c. p.* 112.

Neilgherries in low lying humid ground and on the banks of streams frequent.

1088. Adenostemma reticulatum (D. C.) stem erect subtetragonous glabrous, the very diverging branches of the panicle glanduloso—puberulous: leaves ovate, coursely toothed, rigid, the prominent reticulated nerves beneath puberulous: scales of the involucrum linear oblong obtuse scarcely pubescent: achænia smooth. —*D. C. l. c. p.* 113.

This like the preceding is found on the Neilgherries, but I greatly doubt whether they should be kept distinct the only character of any weight is that taken from the seed, and it is of very secondary value.

1089. Callestephus Wightianus (D. C.) leaves sessile, oblong linear entire or subserrated, shortly mucronate: branches leafy compressed at the apex, minutely puberulous: exterior scales of the involucrum foliaceous, linear oblong, not ciliated, scarcely longer than the interior.—*D. C. l. c. p.* 275.

A rather common plant in many places in the Southern provinces; about Coimbatore it is not unfrequent, flowering during the cool season after the rains.

1090 Erigiron Wightii (D. C.) stem erect shortly ramous: leaves oblong, the inferior ones attenuated at the base, subserrated, somewhat obtuse; superior ones entire, acute, all puberulous on both sides: capitulæ pedicelled sub racemose: scales of the involucrum rough on the back, linear subulate, equaling the disk: ligulæ very slender, longer than the disk: achænia glabrous.—*D. C. l. c* 5. 286.

On the Neilgherries not unfrequent in moist pastures, flowering during the rainy season. Ligulæ pale purple several series, branches hispid plant greyish white.

1091. Myriactis Wightii (D. C.) sparingly pilose: inferior leaves ovate with a long cuniate attenuation at the base, coarsely inciso-serrate; the superior ones oblong entire sessile; the apices of the teeth and of the leaves themselves calloso-mucronate.—*D. C. l. c. p.* 5. 308.

Neilgherries not unfrequent in pastures, minute forms of it growing in arid stony ground sometimes resemble the Daisy. Radicle leaves ovate attenuated into the petiole the inferior cauline ones cuniate at the base, sparingly dentate, the upper ones subsessile acuminated at both ends: capitulæ terminal solitary, 4-6 lines in diameter: involucrum somewhat hairy reflexed after blooming: ligulæ white about 2 series becoming revolute in drying.—*D. C.*

1092. Blepharispermum petiolare (D. C.) leaves petioled, ovate—lanceolate acuminated: glomerules several long peduncled.—*D. C. l c.* 5—368, Courtallum 1836.

De Candolle in his generic character describes the capitula as 2 flowered in place of 4—viz. 2 male and 2 female, the former central: each flower is furnished with a partial palsa while a shorter common involucral one appertains to each capitulum.

1093. Blepharispermum subsessile (D.C.) leaves elliptic, attenuated at both ends subsessile: glomorulus terminal solitary subsessile, with foliaceous bracteas longer than the capitulus.—*D. C. l. c.*

Bellary in arid stony soils—October 1834.

Dr. Arnott proposes to remove this plant from the genus and make it the type of an intermediate one between *Blepharispermum* and *Athroisma*. I am unacquainted with the latter except by description, but think

this associates better with it than the former, and I even think it might without impropriety be referred there, by which the necessity for a new genus would be avoided.

1094. Sphranthus hirtus (Willd) leaves obovate serrated, roughish on both sides, prolonged into serrated wings: glomoruli ovate globose, peduncles three times as long as the glomoruli usually furnished with serrately cleft wings.—*D. C. l. c.* 5. 369.

This is a widely distributed plant, generally found in rice fields, flowering during the cool season.

In this species there are 2 or 3 central hermaph flowers, surrounded by about 10 or 12 female ones. The glomorulus is usually purple of an oval shape, and shortly hairy all over.

1095. Dichrocephala chrysanthemifolia (D.C.) erect ramous, the whole plant rough from close set short hairyness: inferior leaves lyrately pinnatifid: the superior ones oblong, cordately semiamplexicaul, coarsely serrated; the upper ones entire: peduncles much longer than the capitula.—*D. C. l. c.* 5. 372.

Frequent on the Neilgherries about road sides and in neglected places, apparently in flower most part of the year.

1096. Dichrocephala latifolia (D. C.) stem erect, sparingly pilose, leaves obovate attenuated into the petiole, coarsely toothed, often inciso-pinnatifid at the base; flowering branches ramous nearly naked; pedicels rigid divaricated longer than the globose capitula.—*D C. l c.* 5. 372.

Neilgherries very common. The capitula of this are scarcely half the size of the preceding, but the leaves are much larger. This in suitable situations is a lax, luxuriant growing plant, the other is always an erect rigid one.

1097. Grangea Madraspatana (Poir) stems procumbent or diffuse, the extremities villously pubescent. —*D. C. l. c.* 5. 373.

A common plant near the borders of tanks all over Southern India.

1098. Cyathocline lyrata (Cassine) inferior leaves lyrate, upper lobes of the leaves larger, obovate.—*D. C. l. c.* 5. 374.

This so far as my own observation extends is a rare plant. The specimens here represented were gathered on the banks of a stream in Orange valley, on the Neilgherries, generally past flower, in August.

1099. Blumea hieracefolia (D. C.) every where hairy: stem herbaceous erect terete simple: leaves callously dentate, the inferior ones obovate obtuse, attenuated into the petiole; the superior ones oval or oblong, acute, sessile or semiamplexicaul: capitula sessile, crowded, forming an ovate oblong thyrse: scales of the involucrum linear, acuminated, smoothish, longer than the disk.—*D. C. l. c.* 5. 442.

Rather frequent on the Neilgherries in moist soil near springs or on the banks of streams and water courses. It is either a variable plant in habit, or there are other species so nearly allied that it seems almost impossible to distinguish them by written characters. The plant represented seems to be the true form, further described by D. C. as follows. "Herbaceous, about a foot high: leaves more hairy beneath: involucrum purplish on the margin: female flowers innumerable, slender: style exserted undivided; males 5 in the centre: ovaria pubescent.

1100. Blumea pterodonta (D. C.) stem herbaceous terete ramous; scarcely puberulous; viscid towards the extremities: leaves elliptic oblong glabrous, subserrated, decurrent, forming a long deeply and acutely dentate or cleft wing: branches leafy, subpanicled, with one or few capitula at the apex; pedicels naked: exterior scales of the involucrum oblong foliaceous short; the interior ones scariose linear acute, a little longer than the flowers.—*D. C. l. c.* 5. 448.

Neilgherries near Kaitie falls, a widely distributed plant occurring equally on the plains and mountains and D. C. saw specimens from Madagascar.

1101. Blumea alata (D. C.) stem herbaceous erect ramous and, like the leaves, clothed with short redish pubescence: leaves elliptic oblong, dentate, decurrent, forming wings along the stem: peduncles axillary one or few headed, racemosely panicled: capitula suberect: exterior scales of the involucrum lanceolate, foliaceous, squarose, pubescent; interior linear scariose as long as the flowers.—Flowers purple males 10 or 12.—*D. C. l. c.* 5. 448.

Neilgherries not unfrequent. Of this species there are 2 varieties referred to by D. C. *β* cernua and *γ* Napalensis the plant represented belongs to the former—"stems herbaceous erect ramous, like the leaves clothed with short redish pubescence: leaves oblong acuminate, denticulate, decurrent, forming wings along the stem, peduncles axillary 1 or few headed racemosely panicled recurved; capitula cernuous: exterior scales of the involucrum lanceolate foliaceous pubescent, the interior ones long shining scariose recurved at the points, at length patent." This species seems very near *B. vernonioides*, are they not varieties of the same species differing in the degree of clothing, the one "tota dense vellutino-hirsuta" the other (V. alata) "pube brevi subrufa pubescenti-velutenis."

1102. Cæsulea axillaris (Roxb.) *D. C. l. c.* 5. 482.

Mysore in marshy soil, the specimen represented was gathered in the reservoir of a ruinous hill fort. I have met with this plant in other places but it is far from common. This may possibly be a distinct species, as it differs from Roxburgh's figure in the form of the stigma, here it is spathulate included within the tube of the corolla: there filiform exserted. As however, in all other points, it agrees with Roxburgh's figure, I have referred it to his species under the impression that the slight difference may be attributable to the artist who made the drawing.

1103. Siegesbeckia orientales (Linn) leaves ovate, cuniate at the base, acuminate, coarsely toothed; the upper ones oblong lanceolate: exterior scales of the involucrum twice the length of the interior.—*D. C. l. c.* 5. 495.

This is a widely distributed plant in India, it is also found in China, the Mauritius, Society Islands and in Chili. It is principally interesting as having been named by Linnæus in derision of the high pretensions of one of his cotemporaries who contemned his sexual system.

1104. Xantheum Indicum. (Roxb.)

The fruit bearing involucrum oval, pubescent between the prickles, and at the base of the beaks: beaks hooked at the points.—*D. C. l. c.* 5 523.

A large coarse rank growing plant found among rubbish and dunghills. The genus, among *Compositæ*, is a very abnormal one, and has by one Botanist been referred to *Urticaceæ* and by another to *Cucurbitaceæ*. It

seems as if it might justly be removed from its present station to form the type of a new order.

1105. Moonia Arnottiana (R. W.) shrubby, erect, ramous: leaves opposite, unequally pinnatifid, the terminal lobe larger, deeply 3 cleft: pinnæ lanceolate, acuminate, coarsely inciso-serrated, glabrous: flowers of the ray numerous: achænia entire at the apex.—*R. W. M.S.S.*

Neilgherries and Pulney mountains in clumps of jungle—on the former common near the Avalanche Bungalow and in almost every clump of jungle from thence to near Sisparah.

M. heterophylla (Arnott) suffruticose? leaves opposite, petioled, entire or biternately divided, with mucronate serratures: flowers of the ray about 5: achænia marginate bicornute at the apex. Ceylon.—*Arn. pugil. D. C. prod.* 7—289.

1106. Wedelia urticefolia (D. C.) herbaceous subscandent: leaves petioled ovate lanceolate coarsely and unequally serrated; strigosely hispid on both sides; acuminate often incurved at the apex: peduncles solitary 1 cephalous: scales of the involucrum 10 in two series, acuminate, rough on the back: paliæ of the receptacle much acuminated: achænia surmounted by a short denticulate calyculus.—*D. C. l. c.* 5. 539.

β Wightii peduncles about the length of the leaves: leaves shortly acuminate at the base: sparingly strigose. —*D. C.*

My specimens of this plant are from the Neilgherries, Pulneys and Shevagherry mountains—showing its Alpine tendencies.

1107. Wedelia calendulacea (Lessing) leaves oblong—lanceolate, attenuated towards the base, strigosely pilose on both sides, with a few serratures at the apex: peduncles 1 cephalous, axillary, solitary, three times longer than the leaves: exterior scales of the involucrum oblong, subacute, longer than the disk: calyculus of the achænium substipetate, denticulate.—*D. C. l. c.* 5. 539.

A widely diffused plant—varies in the leaves being obtuse or acuminate entire or more or less serrated or cut or even, but rarely, almost 3 lobed.—*D. C.*

1108. Wollastonia biflora (D. C.) leaves petioled ovate, at the base shortly at the apex long acuminate, acutely serrated; above scabrous from scattered hairs, nearly glabrous beneath: peduncles one to three, 1-cephalous; one terminal and 1-2 from the superior axils: scales of the involucrum two series, oblong lanceolate: achænium bald or with a single arista.—*D. C. l. c.* 5. 546.

1109. Spilanthes calva (D. C.) stem ascending, repent at the base hirsutulous at the apex: leaves petioled, ovate obtuse, serrated or crenate, nearly smooth, ciliated at the base; peduncles thrice the length of the leaves: capitula ovate discoid: achænia glabrous bald. —*D. C. l. c.* 5. 625.

A widely distributed plant very common on the Neilgherries.

This plant is scarcely distinguishable from *S. oleracia* except by the achænia which in this is glabrous in that ciliate on the margin. The analysis under B in the accompanying plate are those of *S. oleracia* taken from plants collected in Coimbatore, where, in cocoanut plantations, it is not unfrequent, showing that it is truly a native of India which D. C. questions.

P. S.—Through some blunder on the part of the transferrer, the dissections of *S. calva* have been altogether suppressed. Those on the plate all belong to *S. oleracia.*

1110. Glossocardia Boswallea (D. C.) a herbaceous diffuse many stemmed annual, with alternate pinnatifid leaves, linear at the base, and solitary capitula on short naked peduncles: flowers yellow.—*D. C.* 5. 631.

The specimen figured is an unusually luxuriant one and does not give a very good idea of the plant, as usually met with, growing in arid sterile pastures where it lies flat on the ground, spreading all round the root. I believe however that it is simply a luxuriant variety of the same species grown in more fertile cultivated soil.

I have not met with it in the immediate vicinity of Coimbatore but it abounds at Ootaculmund, a village a few miles distant.

1111. Artimesia glabrata (Wall.) suffruticose, erect, the ramuli and younger leaves beneath subvillous, radical leaves, and the lower cauline ones stipellately cleft, lanceolato—cuniate, acutely trifid at the apex: racemes slender subsecund forming a panicle: capitulæ cernuous pedicelled smallish globose: scales of the involucrum ovate, margined, the interior ones with a membranaceous margin.—*D. C. l. c.* 6. 100.

Very frequent on the Neilgherries flowering after the rains. Inferior leaves obovate cuniate deeply and coarsely toothed: the middle ones usually 3-5 parted, the middle lobe larger more or less deeply 3 cleft, the outside ones subulate; the upper floral leaves simple, lanceolate acute: anthers of the male flowers free.

1112. Artimesia Indica (Willd.) suffruticose erect: leaves greyish tomentose beneath; the lower ones pinnatifid, the middle trifid, the upper ones undivided and like the lanceolate lobes of the lower ones dentate or incised: capitula ovate racemosely panicled: panicle leafy spreading; racemulæ before blooming pendulous: the young involucrum subtomentose, afterwards glabrous, the exterior scales foliaceous acute, interior membranaceous obtuse: corolla naked.—*D. C. l. c.* 6. 114.

This is a common enough plant but, so far as I recollect, generally seen only about the habitations of men in gardens &c. apparently never under cultivation, but as if only allowed to remain by sufferance, not being considered a weed. The only figure I can find is in Rump. Herb amb. 5. 91 & 2.

1113. Helichrysum buddleioides (D. C.) stem suffruticose erect ramous woolly towards the apex: leaves sessile ovate lanceolate acuminate entire, 7—9 nerved, glabrous above whitish tomentose beneath: corymbs compound polycephalous at the apices of the stems and branches: capitulæ ovate, densely crowded: scales of the involucrum oval obtuse, about equal, a little longer than the disk.—*D. C. l. c.* 6. 201.

A rather common plant on the Neilgherries forming dense clumps or bushes from 4 to 6 feet high. The white stems and undersurfaces of the leaves contrasting with green upper ones and large clusters of yellow flowers, render this a conspicuous plant. The leaves are from 3 to 4 inches long, 8-10 lines broad: receptacle alveolate shortly fimbrillate: flower of the outer series female or sterile, the rest hermaphradite: style and stamens included: pappus 1 series pilose scabrous: achænia glabrous.

1114. Gnaphalium hypoleucum (D. C.) stem erect terete, scabrous below, ramous and tomentose above: leaves linear acuminate, somewhat revolute on the margin, roughish above, niveo tomentose beneath, adnate, semi-amplexicaul at the base, subdecurrent: capitula congested on the apices of the branches subsessile glomerules corymbosely panicled: scales of the involucrum yellow, oval oblong obtuse, a little longer than the disk.—*D. C. l. c* 6. 222.

Neilgherries about Kotergherry and the lower slopes, less frequent towards the highest ranges. Easily distinguished by the leaves green above and white beneath and the yellow flowers. Females many series, Hermaph. few.

1115. Gnaphalium marcescens (R. W.) shrubby, somewhat diffuse at the base, branches ascending terete, the lower portions clothed with numerous persistent withered leaves: withered leaves revolute on the edges, linear subulate; green ones narrow lanceolate acute, glabrous above, tomentose beneath; thinly scattered on the floriferous branches not decurrent: floriferous branches umbellate at the apex, capitula aggregated on the apices of the ramuli; scales of the involucrum ovate lanceolate, woolly at the base, nivo-scariose towards the apex: marginal florets 2 series: styles not exserted: achænia obovoid puberulous: pappus uniform scabrous.

Neilgherries.—This species if, to either, belongs to the section Axanthina. It might perhaps with about equal propriety be referred to either *Anaphalis* or *Gnaphalium* or to neither. I cannot however identify it with any species of the former genus and, as it is my belief the two genera are not distinct, I place it here in preference to adding it to a genus which I think must ultimately be reduced. I retain that generic name for the following 4 species, not because I approve of it as applied to them, but because it has already been given and because I do not think this the place to make innovations except on the surest ground. I therefore so far adopt D. C.'s genus though I consider it, as it now stands, untenable.

1116. Anaphalis Notoniana (D. C.) Woolly all over: stem fruticulose leafy to the top, leaves sessile subdecurrent, broad linear or oblong, obtuse, with the thickly woolly margin revolute: corymbs terminal compound dense: scales of the involucrum many series, imbricated, whitish scariose acute, crisp at the apex, at length stellately patulous.—Pappus rough, white, involucrum white.—*D. C. l. c.* 6. 273.

Neilgherries—rather rare. I have given D. C. character as I find it, but remark the discrepancy between the involucrum, as correctly shown in the drawing, and the character. The plant named by him in my herbarium is evidently the same species but in a much younger state, whence perhaps the mistake. The character should have been "*rufescenti*-scariosis *obtusis* apice subcrispis" &c. as shown by the specimen he examined and described.

1117. Anaphalis Wightiana (D. C.) stem suffruticose at the base, erect, leafy to the apex, pilosely scabrous at the base, woolly at the apex: leaves sessile or subadnate, oblong, linear, obtuse, pilosely scabrous above, whitish woolly beneath; the nerve beneath often prominent, rough; the upper ones callously hooked at the point: corymb terminal truly compound, but most densely polycephalous: scales of the involucrum oblong, somewhat acute, white, a little longer than the disk.—Receptacle naked, female flowers many series, exterior; central ones 10—12: pappus 1 series: achæneum round, subpuberulous: involucrum white flowers yellow.—*D. C. l. c.* 6—273.

Neilgherries common. A somewhat variable plant especially as concerns the degree of roughness rigidity and size of the leaves, dependent of course on the varying fertility and moisture of the soil in which it grows.

1118. Anaphalis? elliptica (D. C.) every where clothed with white tomentum: stem ramous, short, fruticutose at the base: leaves elliptic, mucronate, entire, with the tomentum rubbed off the 5—7 nerves, adnate, or shortly decurrent: capitula densely congested, forming an ovate terminal corymb, surrounded by leaves: scales of the involucrum acute, scariose at the apex, redish white.—*D. C. l c.* 6-274.

Neilgherries not unfrequent, found on the highest range, in pastures and by road sides on Dodabetta and elsewhere. It appears to me that this and *A. oblonga* are different states of the same species. The specimen of *A. elliptica* examined by D. C. was in a very young state, that of *oblonga* more advanced and perhaps more luxuriant. When full blown the glomerulus is not embraced by the leaves, but is borne on an elongated leafy stalk, the upper leaves much reduced in size and I find on the same specimen some leaves in which only one nerve can be detected and others with three or more: that character is moreover a very difficult one to make out, owing to the quantity of tomentum with which in the recant state they are usually covered and would appear, from the above fact, less valuable when made out than might a priori be supposed, I think they ought to be united.

1119. Anaphalis aristata (D. C.) stem ramous, suffruticolose at the base, erect; leafy to the apex; scabrous at the base tomentose at the apex: leaves long linear, aristato—mucronate at the apex, revolute on the margin, cordately dilated at the base, shortly decurrent; scabrous above with the midrib subtomentose; beneath whitish tomentose and the midrib scabrous: capitula densely congested, forming an ovate compound terminal corymb: scales of the involucrum obtuse, white and rose coloured, glabrous. Flowers within the involucrum 15-18, of which 5-6 are hermaphrodite the rest exterior about 2 series female: leaves about 2 inches long and 2-3-lines broad.—*D. C. l* c. 6—274.

Neilgherries on the Northern slopes near Nedawuttem not unfrequent by the road side; readily distinguished when growing by the deep rose colour of the involucra, when seem before quite blown. When blown and the seed maturing the tips of the scales become pale or nearly white, the base however retains its colour.

1120. Carpesium Nepalense (Lessing) hirsuto-villous: leaves elliptico-lanceolate, acuminate, dentate, attenuated into the petiol: capitulæ subcernuous, campanulate: interior scales of the involucrum subacute.—Petiols and branches villoso-hirsute, leaves pale and more villous beneath: capitula 4 lines broad.—*D. C. l. c.* 6—281.

A common plant in all the woods about Ootacamund.

1121. Gynura nitida (D. C.) glabrous; stems thickish terete at the base; branches elongated, subangular, nearly naked at the apex: leaves lanceolate, attenuated at both ends, short petioled, coarsely serrated: corymbs terminal 5—7 cephalous: involucrum cylindrical, a little shorter than the flowers, four times

as long as the subulate bractioles.—Receptacle naked, areolate: involucrum 6—7 lines long, purplish.—*D. C. l. c.* 6—299.

Neilgherries—Pulney Mountains, &c. This is a large succulent plant, several feet in height, which I have met with in several alpine situations, but I do not recollect finding it on the plains.

1122. GYNURA WALKERI (R. W.) shrubby, erect, stems naked at the base terete, marked with numerous scars of fallen leaves, leafy towards the apex: leaves long petioled, ovate lanceolate, acuminate, entire or only slightly crenulate on the margin: corymbs terminal, large, loose, many cephalous: involucrum cylindrical shorter than the flowers, much longer than the slender subulate bractioles.

Neilgherries not unfrequent in woods, usually in moist soil near streams, also in Ceylon. The stems at the base are wo dy, but soft and juicy, often upwards of an inch in diameter, and 6 or 7 feet in height, terminated by large corymbs. The leaves are from 4-6 inches long and about half as broad, of a light yellowish green, probably owing to the plant generally growing under the shade of surrounding trees. Flowers white. It appears to be in flower at nearly all seasons.

I first became acquainted with this plant through Ceylon specimens, communicated by Colonel Walker, to whom I at that time dedicated the species and at this distance of time, full eight years after, confirm my first suggestion.

1123. EMELIA SCABRA (D. C.) stem ascending, leafy and densely hirtillous at the base, naked, smooth at the apex: lowest leaves lyrate, cauline ones cordately semi-amplexicaul, ovate lanceolate, rather obtuse, dentate; rough on both sides from scattered hairs: corymbs terminal 5-7 cephalous: involucrum, scarcely shorter than the flowers: about 100 flowers within the involucrum.—*D. C. l. c.* 6—303.

An obscure weed, not by any means uncommon, but almost always appearing as solitary plants.

1124. DORONICUM WIGHTII (D. C.) glabrous, stem erect, sub-simple, angularly, serrated at the base: leaves lanceolate acute, coarsely dentate, subrevolute on the margin; the lower ones attenuated at the base, those above amplexicaul: corymbs few-flowered; the pedicels bractiolate at the apex: scales of the involucrum linear, subacute: ligulæ 8-10, flat: achænia glabrous.—Ligulæ 6-7 nerved, styliferous, but probably abortive, destitute of pappus.—*D. C.* 6, 322.—*Madaractis glabra D. C.* 6, 440.

Neilgherries in pastures and near the banks of water courses where the soil is moist; flowering towards the end of the rainy season.

1125. DORONICUM ARNOTTII (D. C.) stem simple, erect, striated, rough below, glabrous above: leaves close set towards the base, cordately semi-amplexicaul; oblong 3-6 nerved, obtuse, dentate; rough on both sides: corymb terminal, few-flowered; bracteoles linear subulate: involucrum subcalyculate, scales about 15 linear: ligulæ 10 oval, six-nerved, probably sterile by abortion: achænia glabrous.—Stigmata short included: flosculi very numerous: pappus redish.—*D. C. l. c.* 6. 322.—*Madaractis polycephala D. C.* 6. 440.

Neilgherries, &c. abundant on the Northern slopes, near Nedawutem, flowering October and November.

1126. DORONICUM LESSENGIANUM (Arn.) stem long subterete striated hairy: leaves cordate, amplexicaul, oblong lanceolate, few-nerved, deeply and irregularly inciso-serrated: corymbs few cephalate, terminal: involucrum hemisphærical, scales linear subulate, the interior ones oblong lanceolate muricately hispid: ligulæ 8-10, narrow oval, about 9 nerved.—*D. C. l. c.* 6. 322—*Arnott's pugillus.*—*Madaractis scabra, D. C. l. c.*

Neilgherries, &c. flowering cool season after the rains. Allied to the preceding, but I think quite distinct.

1127. DORONICUM CANDOLIANUM (Arn.) suffruticose, ramous: branches striated nearly glabrous, few (1-2) cephalous: leaves whitish, hispidly pubescent, pinnatifid; lobes short, oblong acute, occasionally shortly dentate: peduncles minutely bractiolate at the apex: involucrum 1 series, scales lanceolate, whitish, hispid on the back: ligulæ 8-10, narrow, oval, 3-5 nerved.—*D. C. l. c.* 6. 322.—*Arnott's pugillus*—*Madaractis pinnatifida*—*D. C.* 6. 439.

Neilgherries frequent in pastures. A very ramous somewhat diffuse plant, branches terete glabrous naked towards the base, very leafy about the middle, ending in slender somewhat leafy peduncles, bearing two or rarely three, nearly naked pedicelled, capitula: leaves oblong, narrow, pinnatifidly lobed, nearly to the base, revolute on the margin, hispid on both sides, but especially the under: peduncles leafy at the base, pedicels furnished with a few minute scattered bractioles. Scales of the involucrum linear, pointed, coarsely hispid on the back: ligulæ about 9, lanceolate, acutish, 4 nerved.

1128. DORONICUM RUPESTRE (R. W.) suffruticose, erect, ramous; branches near the base terete naked, above leafy: leaves long petioled; limb lobed or somewhat pinnatifid attenuated into a long slender petiol, nearly glabrous above, nerves beneath bristle hispid: pedicels short leafy at the base, closely beset towards the apex with minute subulate bractioles: involucrum 1 series calyculate, leaflets linear acuminate, nearly glabrous on the back: ligulæ 8, linear lanceolate, obtuse, 4 nerved.

In clefts of rocks Shevagherry mountains flowering August and September. This species is perhaps too closely allied to the preceding, the more so, as having only once met with it leads to a suspicion that it might be a variation produced by local circumstances, as however I got many specimens and find the characters uniform throughout, and all most readily distinguishable from specimens of *D. Candolliaum.* I think I am quite justified in considering it a species. The Ligulæ are nearly twice the size, being much long er and broader: the leaves generally have the outline of a long petioled spathulate leaf cut lobed at the apex, many however are more distinctly pinnatifid.

1129. DORONICUM TENUIFOLIUM (R. W.) herbaceous, erect or ascending, ramous, glabrous; leaves pinnatifid or bi-pinnatifid; lacineæ linear acute, variously toothed or lobed, glabrous: corymbs few cephalate: capitula, peduncled, leaflets of the involucrum linear lanceolate acute, glabrous, or slightly puberulous at the point, ligulæ about 8, broad oval obtuse, 4 nerved.

Neilgherries, &c. This appears a very widely distributed plant on both the subalpine plains and mountains, of Southern India. My collection presents specimens from all quarters. It is not therefore to be wondered at that so common a plant should vary and should have received different names, viz. *Senecio tenuifolius* Burm. Fl. Ind. *Sen.: mutifidus* Wild, Wall, D. C. *Sen. laciniosus* Arnott. These synonyms may I think be depended upon, and as all have referred the plant to

Senecio in place of *Doronicum* I am enabled to restore Burman's specific name, which ought never to have been superseded. The same circumstance, namely, this being a *Doronicum* strengthens the suspicion that the two preceding plants, are merely alpine varieties of this, the original species.

1130. SENECIO CORYMBOSUS (Wall—D. C.) stem scandant, terete araneose (appearing as if covered with cobwebs:) leaves petioled exstipulate, cordately suborbicular, shortly acuminated, subserrated ; glabrous above densely tomentose beneath, 5-7 nerved at the base : corymbs axillary and terminal compactly polycephalous: involucrum 8-leaved, bracteolate at the base : ligulæ none: achænia glabrous.—Petiols of the leaves 6-12 lines long, limb about 2 inches in diameter, 10 tubular florets —*D. C. l. c.* 6. 364.

Neilgherries in clumps of jungle climbing to a great extent over the adjoining trees. De Candolle asks is not this rather a *Cacalia*?

1131. SENECIO WALKERI (Arnott) stem scandent terete araneose towards the extremities : leaves exstipulate, petioled, cordiform, acute, calloso-dentate, glabrous, above flosculosely araneous : peduncles axillary, longer than the leaves ; corymbosely-polycephalous : capitula discoid 6-7 flowered : scales of the involucrum 8 with a few subulate squamellæ at the base : ligulæ none achænia glabrous.—*D. C. l. c.* 6. 364—*Arnott's pugillus*—very near *S. corymbosus*, but seems sufficiently distinct from the difference in nervation, the want of tomentum on the under surface of the leaves, and fewer florets in the capitula.

Neilgherries, &c. and in Ceylon climbing on trees.

1132. SENECIO NEILGHERIANUS (D. C.) stem erect suffruticose, roughly striated at the base, leaves linear lanceolate acute, hirsutely tomentose beneath, rough above, the lower ones attenuated at the base semi-pinnatifid, the middle ones sessile, dentate, the upper auriculate-amplexicaul, nearly entire : corymbs few-cephalate, pedicels bracteolate at the apex : scales of the involucrum linear, scarcely acute : ligulæ 12-14 flat : achænia glabrous.—Ligulæ 4 nerved, revolute when dry ; pappus very white.—*D. C. l. c.* 6. 368.

Neilgherries in moist pastures near springs and water courses.

1133. SENECIO LAVANDULAFOLIUS (Wall. D. C.) stem erect terete hirsutely striated : leaves crowded, oblong linear, entire, revolute on the margin, tomentose beneath, hairy or hispid above ; the upper ones linear distant : racemes corymbose simple : peduncles bractioled, involucrum nearly glabrous 15 leaved calyculate : flowers about 40, ligulæ 15, long, spreading, 4 nerved : achænia glabrous.—*D. C. l. c.* 6. 368.

Common in pastures on the hills flowering during the cool season.

1134. SENECIO CANDICANS (Wall) climbing, every where clothed with white tomentum, branches striated : leaves petioled, auricled with reniform stipuli, cordate acute serrated, araniose above, afterwards glabrous ; beneath niveous : panicle corymbose : bracteæ linear subulate : pedicels diverging : involucrum white, campanulate, sparingly bractioled at the base : ligulæ 6, oblong flat : achænia glabrous.—*D. C. l. c.* 6. 369.

Neilgherries, frequent in clumps of jungle climbing on the adjoining trees.

1135. SENECIO INTERMEDIUS (R. W.) scandent glabrous, leaves petioled glabrous triangular, acuminated, unequally crenately-dentate : petiols auricled at the base, with a large reniform stipule : panicles corymbose : bractea linear subulate : pedicels divaricate : capitulæ many flowered : involucrum calyculate : ligulæ 12-14 oblong lanceolate obtuse : achenia papilose.

Neilgherries climbing on trees and bushes near the Avalanche Bungalow, flowering February and March.

This species seems quite intermediate between *S. candicans* and *S. Wightiana* but is certainly distinct from both. It has the large reniform auricled stipules of the former, the glabrous habit of the latter, and differs from both in its numerous and large sized ligulæ.

1136. SENECIO WIGHTIANUS (D. C.) glabrous; branches scandent, angularly striated : leaves petioled, ovate or elliptic lanceolate, acuminate, serrated ; limb obtuse at the base or shortly cuniate ; petioles with a small auricle at the base : panicle divaricated ; pedicels bractiolate at the apex : capitulæ small, 8-10 flowered ; ligulæ 3-4 small : achenia puberulous.—*D. C. prod.* 6. 370.

A widely distributed species, like both the preceding native of the Neilgherries, but descends to much lower levels, the specimen figured was obtained from the Malabar jungles.

1137, 1138. CIRSIUM ARGYRACANTHUM (D. C.) leaves semi-amplexicaul serrately pinnatifid, ciliato-spinulose, the lobes ending in strong spines ; beneath and the stem arachnoideo-villous : capitula paniculato-congested : bracteæ many cleft very prickly : scales of the involucrum terminating in strong spines.—*D. C. c. l.* 6. 640.

Very common on the Neilgherries, about equally so on the Pulney mountains. In moist rich soil it not unfrequently attains the height of 6 or 7 feet. It may be met with at most seasons in flower, but is in perfection in August and September. Flowers pale purple.

1139. TRICHOLEPIS PROCUMBENS (R. W.) stem short flexicose ramous : branches diffuse procumbent, angularly striated, subglabrous : leaves shortly pubescent or subglabrous, those of the stem lyrate, of the branches sinuately pinnatifid, the lobes spinously mucronate : involucrum ovate ; scales ovate at the base, araniose, terminating in a slender prickle-like appendage : stamens a little longer than the corolla : stigmas exserted, diverging at the apex : achenia smooth, pappus double, exterior of many series setaceous ; interior of 5 lanceolate paleæ, nearly equalling the corolla.

Bellary in arid stony soils flowering October and November.—Coimbatore in similar situations flowering January.

This seems most nearly allied to our *T. Candoliana* a figure and description of which is published in the Companion to the Botanical Magazine vol. 1 P. 81. it seems however abundantly distinct.

The double pappus seems to associate this with *Microlonchus* but the homogamous not heterogamous capitula keeps them distinct.

1140. DICOMA LANUGINOSA (D. C.) erect, very ramous, woolly : involucrum ovate, scales exteriorly subglabrous : paleæ of the pappus serrated, scarcely twice the length of the very hairy fruit.—*D. C. l. c.* 7. 36.

Found in light gravelly soils flowering during the rainy and cool seasons rather common about Coimbatore.

1141. Sonchus ciliatus (Lam. D. C.) stem erect, glabrous, or rarely pilosely glandular towards the extremities of the branches: cauline leaves stem clasping, acutely dentate—ciliate, runcinate or undivided; the auricles acuminate: involucra and pedicels nearly glabrous: achenia along, the nerves transversely muriculato—rugous.—*D. C. l. c.* 7. 185.

Widely distributed over India especially among rubbish by wall sides in sheltered places.

1142. Sonchus Wightianus (D. C.) root lignious: stem ascending erect, somewhat angular, glabrous: leaves stem clasping, with roundish auricles, oblong-lanceolate, unequally and acutely dentate, glabrous, glaucescent; the upper ones nearly linear: the laxly corymbose pedicels and involucra glanduloso—pilose: achenia oblong striated, very slenderly transversely—rugose—*D. C. l. c.* 7. 187.

Shady places—In cocoanut plantations at Ootakalmund near Coimbatore rather frequent, flowering during the rainy and cool season. In the shaded rich soil of these plantations, this plant sometimes though rarely attains a height of nearly 4 feet but seems quite an annual.

It seems quite distinct from the preceding.

1143. Picris hieracioides (Lim) stem erect, usually rough with barbed hairs, corymbosely ramous at the apex: leaves semi-amplexicaul lanceolate, coarsely dentate, rough: exterior scales of the involucrum oblong lax.—*D. C. l. c.* 7. 128.—*Var* γ Indica. Corymb much divaricated.

Neilgherries frequent, flowering during the rainy and cool seasons. This seems to be a widely distributed species both in India and Europe, I have specimens from Courtallum, the Pulney mountains and Neilgherries and according to D. C. *P. hamulosa* Wall. A Nepaul plant does not differ.

1144. Mulgedium Neilgherrense (R. W.) stem erect glabrous, somewhat panicled at the apex: cauline leaves runcinately pinnatifid, doubly crenate, dilated and somewhat stemclasping at the base, terminal lobe subrhomboid, attenuated upwards, mucronate, somewhat hairy on both sides especially on the veins beneath; floral ones entire lanceolate: pedicels hairy at the apex: capitula ovate, scales of the involucrum imbricate, exterior ones hairy on the back: achenia obovate compressed, ending in a long beak: pappus double, exterior short paliaceous; interior long slender setaceous—Plant from two to four feet high, flowers purple.

Neilgherries not unfrequent in jungly ground and by road sides flowering during rainy and cool seasons.

The double pappus of this species seems to indicate that technically it does not belong to this genus, but as its whole habit is strongly in accordance with it, I without hesitation place it here.

1145. Microrhyncus glaber (R. W. *Lactuca glabra* D. C.) glabrous, stem naked, dichotomously branched about equal or a little longer than the leaves; leaves elongate-linear, somewhat rigid, acute, either entire or dentate: capitula corymbose long pedicelled cylindrical 7-8 flowered: involucrum calyculate with lanceolate squamellœ; squamœ 5-6 linear lanceolate somewhat scariose on the margin, thrice as long as the calyculus; achænia five angled obscurely beaked.—Denticuli of the leaves sometimes nearly wanting oftener retrorse: leaves 2-3 inches long, 2-4 lines broad.—*D. C. l. c.* 7.—135 under *Lactuca.*

Neilgherries rather common to be met with in flower at all seasons but most abundant during the rains from July to December. I have ventured to remove this plant from the genus in which D. C. placed it as the achænium corresponds accurately with the one and not at all with the other. In *Lactuca* the achænium is flattened and abruptly lengthened into a long filiform beak: in this it is pentangular and scarcely beaked.

1146. Brachyramphus Heyneanus (R. W. *Lactuca Heyneana* D. C.) stem erect, glabrous, terete, naked above: leaves rigid subradicle, runcinate, coarsely sitoso-ciliate; the rest glabrous stem clasping: capitula cylindrical short pedicelled remotely fascicled along the branches: achænia compressed striated slightly muricate, shortly beaked.—Achænia black scabrous pappus white very soft.—*D. C.* 7. 140.

Coimbatore and elsewhere by wall sides and hedges, flowering during the rainy season. The oblong muricate achænia ending abruptly in a short thick beak, not a long filiform one has induced me to remove this also from the genus *Lactuca* with which it certainly does not associate but sorts well with *Brachyramphus.*

1147. Youngia napifolia (D. C.) glabrous or subhirsute at the base; stem erect, terete, loosely panicled and nearly leafless at the apex: radicle and inferior cauline leaves petioled, runcinate—lyrate, lobes oval oblong obtusely sinuate, mucronately dentate, the extreme ones confluent: involucrum 8-phyllus minutely calyculate: achænia attenuated at the apex.—*D. C. l. c.* 7. 193.

Coimbatore rather frequent about hedges and in neglected places where it meets with some shelter, flowering during the rainy season. I leave this as placed by D. C. though according to my own impression erroneously. DeCandolle suggests that it might almost be placed in the section *Mycelis* of Lactuca along with the preceding. To my mind the whole section, and this along with them, would have been more appropriately referred to *Brachyramphus*, that is, if they all correspond with the sectional character "beak two or three times shorter than the achænium."

1148. Vicoa Indica (D. C.) leaves auricled at the base lanceolate acuminate serrated or nearly entire, more or less puberulous on both sides: ligulæ twice as long as the disk.—*D. C. prod.* 5. 474.

A very common plant to be met with all over India and generally in flower during rainy weather. Flowers bright yellow.

OLIGOLEPIS (R. W. *not* Cassini.)

Gen. Char. Capitula numerous heterogamous about 5 flowered. Flowers all tubular: females few (about 4) in the circumference, pedicelled, slender, 3-toothed: hermaphrodite solitary, sessile, 5-toothed subcampanulate. Style 2 cleft in the female, undivided in the herm. Achænia beakless, of the female terete hairy, of the disk absolately 4 sided glabrous. Pappus none.

Glabrous annuals with decurrent subspathulate serrated leaves and dense ovate oblong axillary glomerules. Involucra, usually, one scale to each flower, that of the hermaphrodite much larger, forming a common involucrum to the capitulum, aristato-mucronate; those of the females linear obtuse mucronate or some-

times truncated, folded round the flower and adhering to the pedicel. Disk flower larger subcampanulate, texture fragile, cellular cells quadrangular (much resembling those of the sheath of a plantain leaf.)

1149. Oligolepis amaranthoides (R. W. *Sphranthus amaranthoides Burm. Flora Ind. D. C. prod.*)

The specimens from which the drawing was made were somewhat deteriorated by age, and the analysis are not so complete as I could have wished, but enough, I think, is shown to prove that it is not a true congener of No. 1094. They were gathered many years ago in rice fields near the sea coast at Negapatam.

Figure 4 of the plate is a portion of the disk corolla, slightly magnified.

1150. Cyathocline lutea (Law's Mss.) leaves nearly all radicle minute (mossy looking) sub-bipinnatifid pubescent: stems slender, erect, dichotomously branched, often with a capitulum in the fork, and one to three on the ends of the branches: flowers yellow.

Tannah district near Bombay, (Law.)—The whole plant rarely exceeds 3-4 inches in height but often bears 10 or 12 rather large capitula. It is a most distinct species both by habit and colour of the flowers.

1151. (A.) Doronicum tomentosum (R. W.) stem herbaceous erect subtomentose, at first simple, leafy, afterwards corymbosely branched; ramuli nearly naked: leaves rough, lower ones, elliptic tapering to the base: upper ones subovate-lanceolate, auricled and subamplexicaul, coarsely and unequally dentate, rough and slightly araniose above, densely white tomentose beneath: corymbs lax peduncles bractiolate: ligulæ about 14 sterile, disk flowers numerous 5 cleft: pappus setaceous hispid: achænium costate hairy.

North western slopes of the Neilgherries by the road side flowering September and October. Flowers yellow, ligulæ linear 4 nerved 3 toothed: stigmas wanting, or 2 lobed when present, apparently sterile disk flowers bisexual 5 cleft, tubular pappus nearly as long as the corolla silaceous rough: achænium linear costate hispid on the ribs.

1151. (B.) Doronicum reticulatum (R. W.) Herbaceous, erect, ramous, stem and branches glabrous: leaves somewhat rhomboidal, coarsely and unequally dentate, teeth mucronate; rough and araniosely pubescent above, tomentose between the veins beneath, veins glabrous: capitula laxly corymbose, longish pedicelled; bracts subulate: ligulæ 10-12 sterile, throat hairy within, pappus none; disk flowers numerous, tube contracted, throat dilated, campanulate: pappus paliaceous hispid achænium ribbed conical hairy.

Tannah district Bombay, (Law.) The difference of the shape of the pappus and corolla of this species seems to indicate that it might, were I so disposed, be made to form the type of a new genus, but such appears to me a most unnecessary refinement, the essential character of Doronicum 'ray flowers bald, disk ones crowned with pappus'—being here well marked the particular kind of pappus and shape of the corolla then form excellent specific characters. Both these species are referable to DeCandolle's genus *Madaractis* which however is not distinct from *Doronicum.*

MADACARPUS (R. W.)

Gen. Char. Capitula radiate heterogamous. Ray flowers 1 series sterile: disk ones numerous hermaphrodite. Achænia beakless, oblong, furrowed; without pappus.—Herbaceous plants, capitula corymbose: involucrum campanulate 1 series, scales linear lanceolate mucronate: receptacle convex, foviolate: corolla subinfundebuliform costæ of the Achænium hispid.—*R. W. Calcutta Jour. Nat. Hist.*

1152. Madacarpus Belgaumensis (R. W.)

Belgaum—J. S. Law, Esq.—I am indebted to Mr. Law for my specimens of this plant which in habit so much resembles *Dor. reticulatum* that it was at first mistaken for that plant. Annual, erect, hirsute, leaves ovate crenate-dentate, auricled at the base, pubescent above, tomentose beneath. Capitula corymbose, scales of the involucrum cohering at the base, linear, mucronate: receptacle conical foviolate: ligulæ about 8, 4 nerved, style and stigma none: disk flowers tubular infundibuliform 5 cleft segments with a distinct mid rib: anthers ecaudate, stigmas recurved truncated: achænia 10-nerved nerves hispid: pappus none.

APODYTES. Meyer—Bentham.

Gen. Char. Flowers bisexual, calyx small, unchanged. Petals 4-5. Stamens as many, alternate with them, none sterile. Ovary 1-celled. Fruit ovate-reniform subcompressed, bearing on one side a fleshy appendage.—Inflorescence terminal.—*Benth. Lin. Tr. vol.* 18, *p.* 680.

1153. Apodytes Benthamiana (R. W.) leaves elliptic obtuse at both ends: panicles terminal, contracted, rigid, shorter than the leaves, style straight scarcely excentric: fleshy appendage of the drupe scutelliform.—*R. W. MSS.*

Neilgherries rare. A single tree observed in the woods near the top of the Hills behind the Avalanche Bungalow—flowering in February. Shevagherry August.

Arboreous, ramuli terete glabrous: leaves alternate, exstipulate, coriaceous, glabrous, oblong elliptic, obtuse at both ends from 3½ to 4 inches long, including the petiole, by 1½ broad. Panicles terminal, rigid, shorter than the leaves: Bracts minute or wanting: flowers white, 3 lines long, calyx minute 5-toothed: petals elliptic inflexed at the point, stamens length of the petals; anthers linear obtuse, longer than the filaments, adnate: ovary free hairy ovate 1-celled with 2 lateral superposed ovules: style slightly lateral straight: stigma truncated: drupe semiovate, reniform, crowned with the persistent base of the style and furnished with a lateral scutelliform appendage one-seeded: seed pendulous obovate cuniate compressed: embryo minute in the apex of a large albumen radicle next the hilum.

1154. Leea macrophylla (Roxb.) stem herbaceous erect angled, petioles and leaves glabrous: leaves simple broad cordate, dentato-serrated: cymes large terminal; berry, black succulent six or more celled; cells 1-seeded.

Walliar jungles, between Coimbatore and Paulghaut abundant, flowering during the rains. Leaves nearly orbicular, when full grown from 12 to 18 inches in diameter, traversed by numerous large prominent veins.

DeCandolle quotes Roxburgh for this species, but must have had a wrong plant before him when he defined it, as he describes the leaves as pinnated.

1155. Sophora heptaphylla (Linn.) shrubby or subarboreous: leaflets alternate 7-13 ovate oblong acuminate, glabrous above, pubescent beneath: stipules

rigid subulate: racemes leaf opposed lax about the length of the leaves: bracts subulate: calyx campanulate suboblique slightly 5-toothed: ovary 3-4 ovuled: legume villous, 2-4 seeded attenuated at the apex much contracted between the seed: seed 2-4 oval bright shining red.

Neilgherries, in Jungles below Neddawutem. Flowering during the rains and maturing its seed in October and November. The Neilgherry plant differs from the Ceylon one, in having the leaflets more oblong and pubescent on the under surface; to neither of which characters I attach much importance.

The Linnean specimen of this plant seems to have been a very indifferent one. Arnott's character in his Pugillus is much more correct.

The above is principally applicable to the Neilgherry plant and was in great part communicated, along with the flowering specimen of the drawing, by Captain Munro who first found it on the Hills. The legumes were added from specimens I collected in October 1845.

1156. Dalbergia latifolia (Roxb.) W. and A.—arboreous: leaflets 3-7, generally 5, alternate, orbicular, emarginate; upper side glabrous; under when young minutely pubescent: panicles axillary, branched and divaricating; flowers on short slender pedicels: calyx-segments oblong, more or less obtuse: stamens 9 (or 10?), all united into a sheath open on the upper side: ovary stalked, about 5-ovuled, glabrous: style slender, nearly as long as the ovary: stigma small: legume stalked, oblong-lanceolate, usually 1-seeded.

Paulghaut jungles, flowering during the rainy season. A most magnificent tree from which the well known Malabar blackwood is obtained, planks of which I have seen nearly four feet in breadth, after the removal of all white wood and these are not the largest obtainable.

My figure differs from Roxburgh's, in the smaller size and undulation of the leaves, it however seems to be the same species, only less luxuriant, according to description it seems to be more justly referable to Roxburgh's *D. emarginata* than to *latifolia*, but the wood of the former is not black, which I think fatal to their identity. It is possible however that the Malabar tree may be specifically distinct from the Bengal one, a point which my specimens does not enable me to determine.

1157. Acacia latronum (Willd.) W. and A.—somewhat arboreous, armed; thorns numerous, stipulary, very large, terete, tapering, united at the base: leaves bipinnated; pinnæ 3-5 pair, with a gland on the petiole; leaflets 6-15 pair, very small, narrow linear, obtuse, without any glands between the pairs: spikes axillary, usually in pairs, peduncled, cylindric, longer than the leaves, many-flowered: corolla 4-5-cleft: stamens numerous, distinct: legume flat, thickish, oval-falcate, 3-4-seeded.

Coimbatore frequent in sterile stony soils and in such situations always a scraggy thorny shrub. When in full flower in July and August, it exhales a most fragrant scent not unlike honey-suckle, quite perfuming the air for some distance round. In this district I have never seen it as a tree.

1158. Kalanchoe laciniata (D. C.) W. and A.—leaves decomposed and pinnatifid, the segments oblong, acute, coarsely toothed; upper ones nearly entire: sepals lanceolate, acuminated, spreading, cyme panicled.

Frequent about hedges and low jungle about Ootakalmund, near Coimbatore, flowering during July and August. In favourable situations it frequently attains the height of 3 or 4 feet with large spreading much divided leaves, the lobes of which are succulent and nearly cylindrical: flowers yellow. It is the glabrous form which is principally found here.

1159. Hymenodyction obovatum (Wall. not Wight's Icones, No. 80) arboreous: leaves obovate, abruptly and shortly acuminate, glabrous, finely reticulated beneath with coloured veins; thickly congested near the ends of the branches: stipules ovate glanduliferous on the margin very deciduous: racemes axillary spicate with one or two short branches: tube of the corolla contracted limb campanulate 5 cleft: stamens inserted on the throat, filaments much longer than the anthers.

In dry and stony soils about Matecarry near Coimbatore, flowering during May and June, seed ripen about the close of the year.

This plant agrees so well with Dr. Wallich's description of his, H. obovatum that I cannot hesitate as to the propriety of giving it to that species, and considering the plant figured table 80 of this work a new species to which I have given the name *H. utile* with reference to its extensive use, in this neighbourhood, in cabinet making under the English name of Bastard Cedar. It may be thus distinguished from the above to which it is closely allied.

Hymenodyction utile (R. W. *H. obovatum Wight's Icones* No. 80.) leaves roundish ovate abruptly acuminate, glabrous above, villous beneath: stipules broad ovate obtuse, glanduliferous on the margin: panicles terminal loose, branches racemose; flowers pedicelled, bractiolate, fascicled: corolla subrotate, tube about the length of the calyx-limb filaments inserted on the throat a little shorter than the oblong ovate anthers. —*H. excelsum Wight's Cat.* No. 1264 and *W. and A. prod.* not of Roxburgh and Wallich.

Common in the Paulghaut jungles, often attaining a large size. The wood is nearly the colour of mahogany but of a loose texture soft and very hygrometric.

1160. Argostemma Courtallense (Arn.) stem repent, extremities erect simple pubescent: leaves glabrous verticelled somewhat irregular, or two approximated pairs towards the apex: stipules obsolete, umbel peduncled 2-6 flowered shorter than the larger leaves: pedicels and calyx pubescent: flowers quaternary: filaments bent, anthers distinct, dehiscing by a double pore near the apex. Arnott. Annals of Natural History, vol. 3. p. 22.

The drawing was made in 1835 at Courtallum; where only I have met with the plant. Limb of the corolla white, tube yellowish green.

1161. Greenia Wightiana (W. and A.)—leaves almost quite glabrous on both sides except on the midrib and nerves.

Mergui—The specimens represented were received from the late Mr. Griffith and quite correspond with our original specimens, whence I suspect this is not a Peninsular but Tenasserim plant.

1162. Ophiorrhiza Harrisonii (Wall.) stem, petioles, peduncles and nerves, the underside of the leaves pubescent: leaves ovate or roundish ovate acutish: glabrous and green above, pale beneath: peduncles terminal corymbose, and dichotomously branched at the apex.—Root creeping—G. Don, dict; 3—523.

Courtallum—Flowering during the rainy season.

ADDENDUM.

Sophora robusta (Rox.)—The character and descriptions of Roxburgh's *Sophora robusta* figured No. 245 of this work having been omitted in the Flora Indica, I here publish it having been furnished with a copy by Dr. Wallich. It confirms the opinion formerly expressed that the plant is not a species of *Sophora*, but more nearly approaches *Ormosia*. It however widely differs from that genus in the character of the *legume* which is *fleshy* in this, *woody* in that. Besides this, there are others, apparently of less moment, but which seem to indicate that if the two were compared, more important ones might be found; in which case it may prove the type of a new genus between *Ormosia* and *Diplotropis*: but as I am unacquainted with both these genera, except by written characters, I can offer no opinion on this point. Roxburgh describes the seed as being "enveloped in a complete thick fleshy scarlet aril." The meaning of this is not very obvious unless we suppose that owing to the vague definition of the term, at the time he wrote, he applied it to a coloured fleshy testa, in place of to an enlargement of the placenta. This supposition seems the more probable, as the figure presents no indication of any growth or enlargement of the placenta.

"Leaves unequally pinnate; leaflets 4-5 pairs, lanceolate. Panicles terminal, ligumes fleshy, 1-2 seeded.

Peyple the vernacular name in the Silhet district, where it grows to be a very large timber tree. Flowering in April and May, and the seed ripen in July.

Young shoots as well as all the other tender parts densely clothed with ferruginous down.

Leaves alternate, unequally-pinnate, 6-12 inches long.

Leaflets generally 4 or 5 pair, opposite, short-petiolate lanceolate entire, smooth, 3-5 inches long, by 1-2 broad.

Petioles round, downy.

Panicles terminal, and from the exterior axils, as long as the leaves ovate; composed of many, patent, simple, or compound, downy branches.

Stipules ensiform, caducous, ferruginous.

Flowers numerous, pretty large, short-pedicelled dull white.

Calyx bowl-shaped, 5-toothed very villous, permanent.

Corol papilionaceous; Banner nearly round, supported on a pretty long claw, with two callosities on the inside of its apex. *Wings* and Keel nearly equal, and rather shorter than the banner.

Filaments 10 distinct smooth, length of the pistillum ascending Anthers ovate two lobed.

Germ short-pedicelled, oblong, very hairy, one-celled: ovula two attached to the upper margin. Style as long as the germ, apex with a spiral turn. Stigma rather large glandular.

Legume generally one-seeded, and then ovate; if two-seeded more lengthened, smooth, bright yellow, fleshy, size of a pullet's egg, one-celled, two-valved.

Seed for the most part one oblong, enveloped in a complete, thick, fleshy, scarlet aril.

Perisperm none.

Embryo conform to the seed. *Cotyledons* equal, line of separation serpentine. *Plumula* two-lobed. Radicle patilliform, centrifugal."

From Dr. Roxburgh's MSS. Flora Indica.

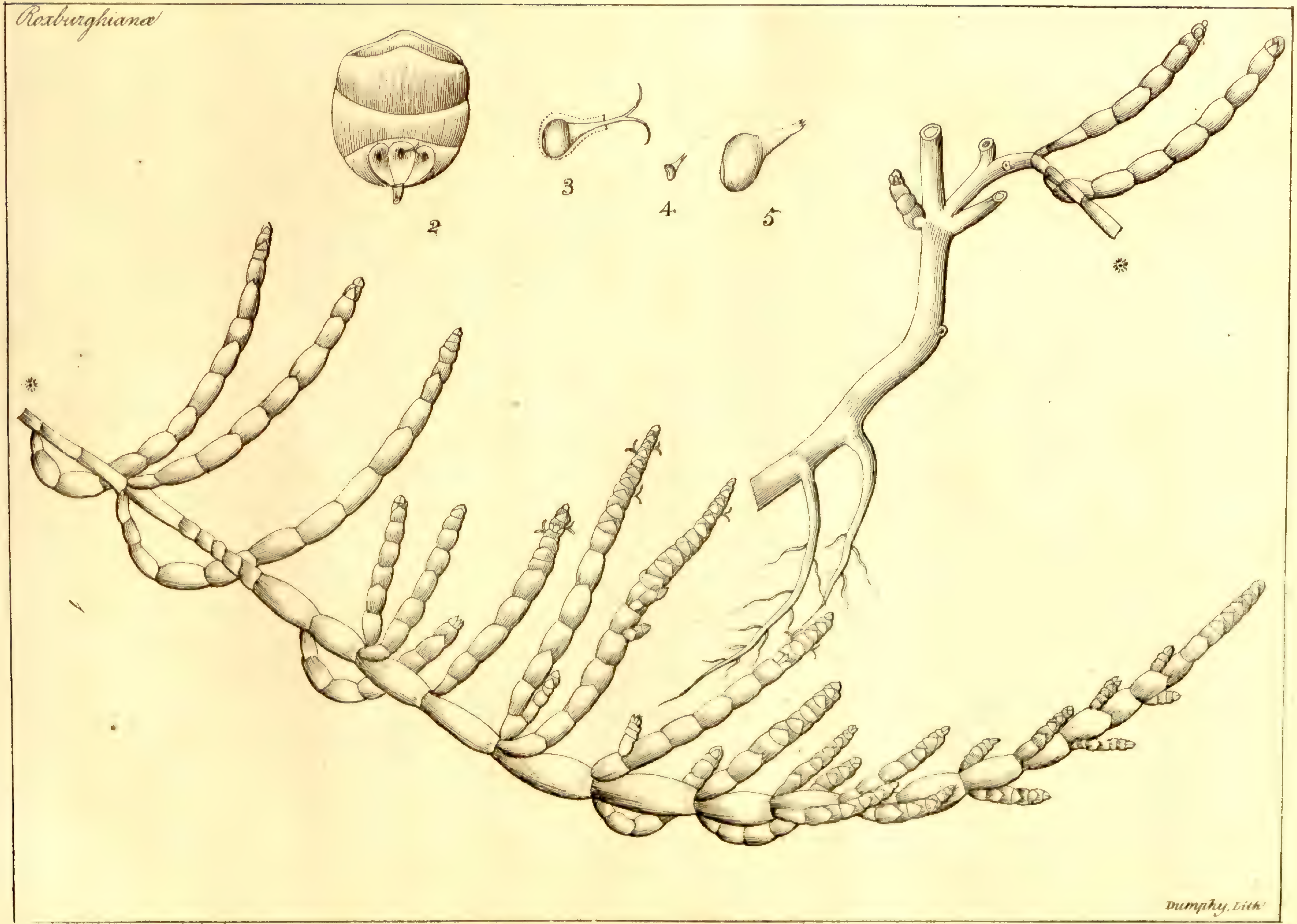
ERRATA.

No. 80 For *Hym. obovatum* (Wall.) read *H. utile* (R. W.) see No. 1159 for the character of the species.

No. 829. for *Vernonia conyzoides*, read *Vern. Dendigulensis* (D. C. *V. Candolleana* Arnott not Martius,) fruticose, branches velloso-pubescent: leaves oblong lanceolate subacuminate, attenuated at the base into a short villous petiole; hispidulous above, more or less pubescent, beneath serrated; serratures mucronate: corymbs lax compound naked: scales of the involucrum mucronate pubescently hirsute at the point; achænium glabrous, exterior pappus short paliaceous. *Arn. pugil p.* 28.—*D. C. Prod.* 7. *p.* 263.

These two are very nearly allied species, I had almost said only certainly distinguishable by the exterior pappus which in *V. conyzoides* is spreading, and so short that it does not exceed the diameter of the seed forming quite a setaceous ray round the apex, while in the other it is erect paliate, and nearly half the length of the seed. In *conyzoides* the achænia are hairy: in *Dendigulensis* glabrous. These most essential parts of the character are not, I regret to say, very well brought out in either of the figures. No. 829, was prepared many years ago, during my absence in Europe, and was published before I had properly made myself master of the details of this difficult family, otherwise the oversight would have been corrected.

Roxburghianæ

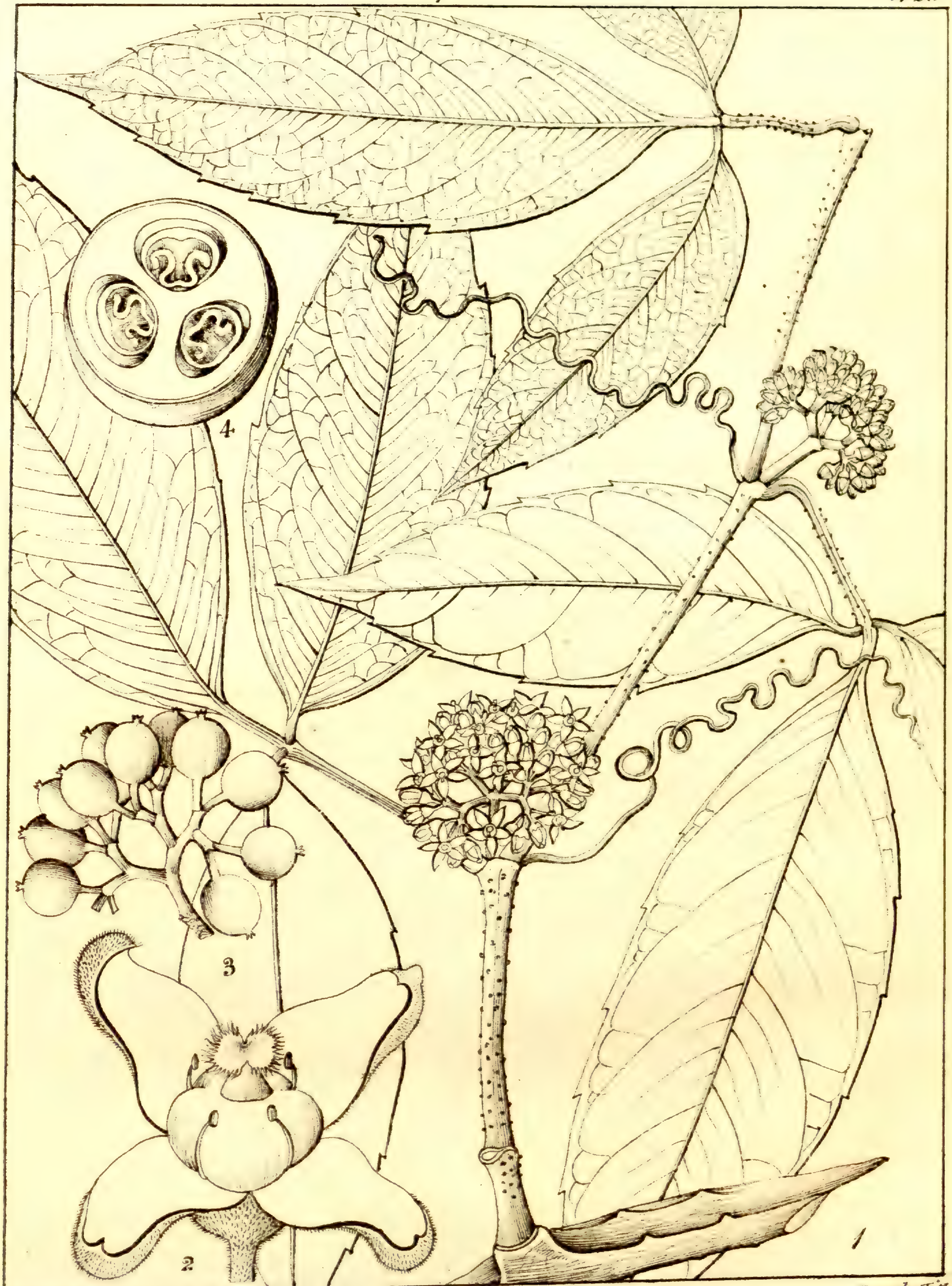


Salicornia indica (Vahl-Roxb)

Salicornia brachiata (Roxb)

Rungiah, del. Dumphy, Lith.

Corchorus acutangulus (Lam)



Rungiah, del.   Dumphy, Lith.

Vitis (C) muricata (Wall)

Rungiah, del. Dumphy, Lith.

Impatiens cuspidata (W. & A.)

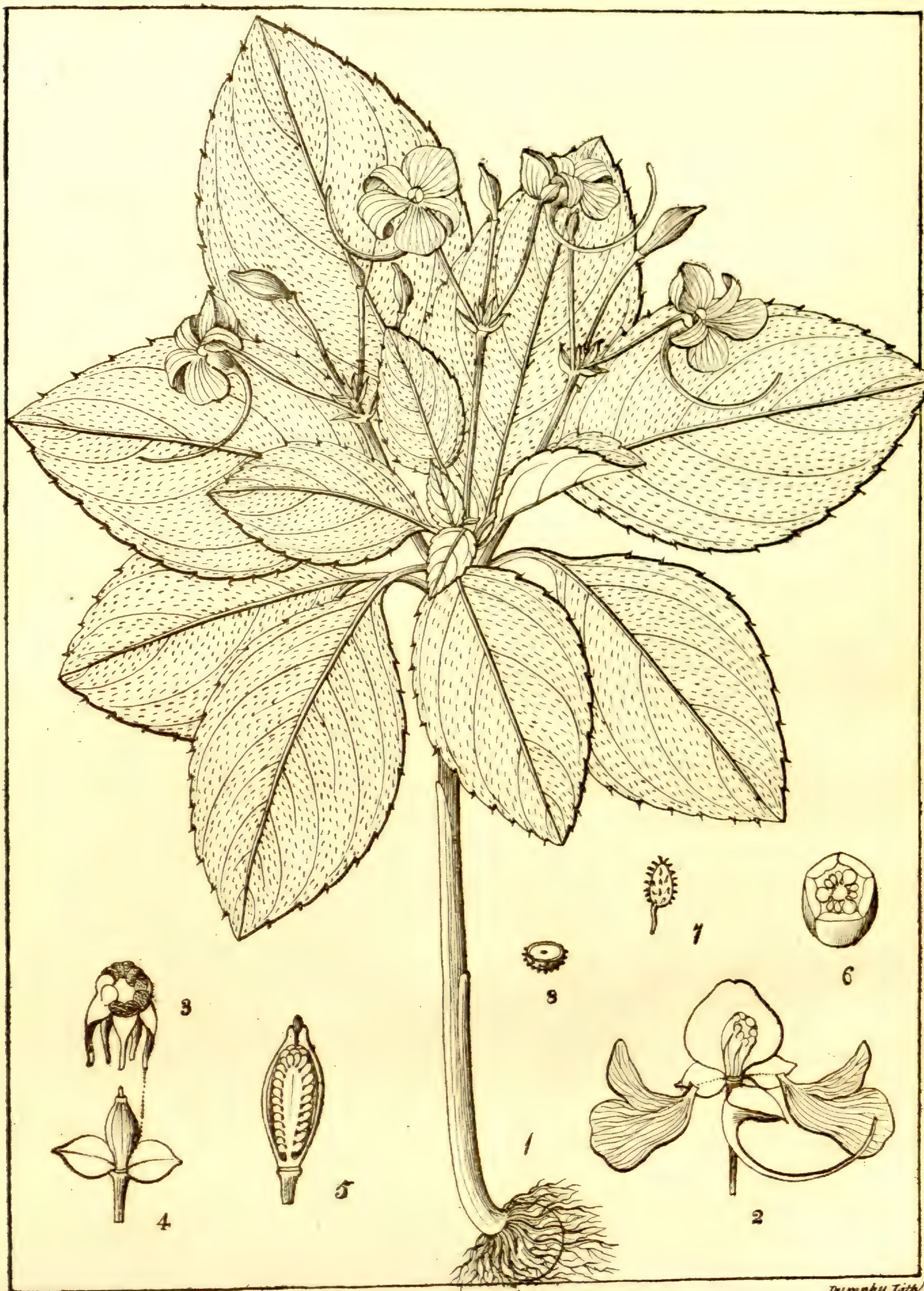
Dunphy, Lith.

Impatiens dasysperma (R.W.)

Impatiens albida (R. W.)

Dumphy, Lith.

Impatiens campanulata (R. W.)



Rungiah, del.

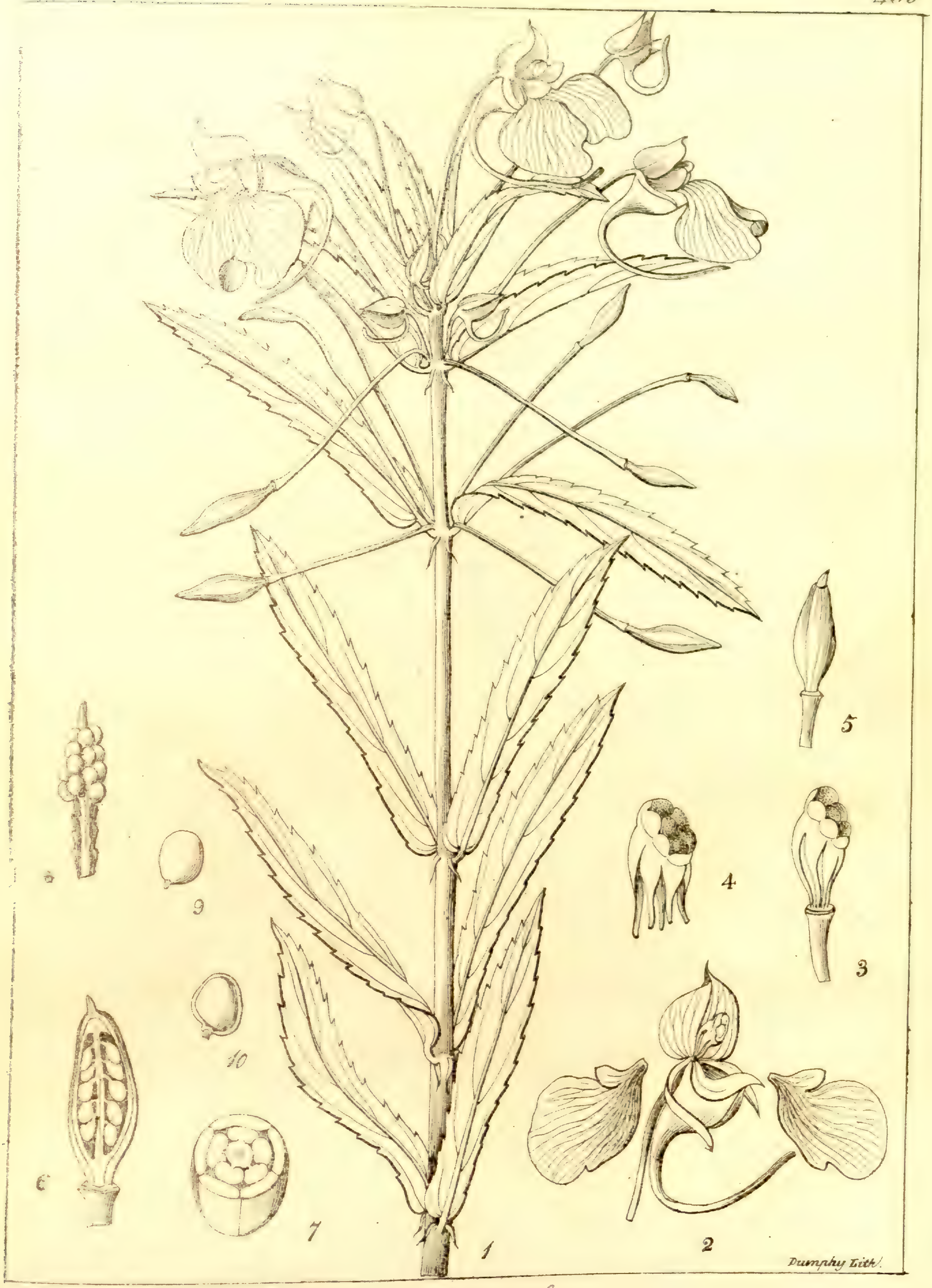
Dumphy, Lith.

Impatiens umbellata (Heyne)

Dumphy, Lith.

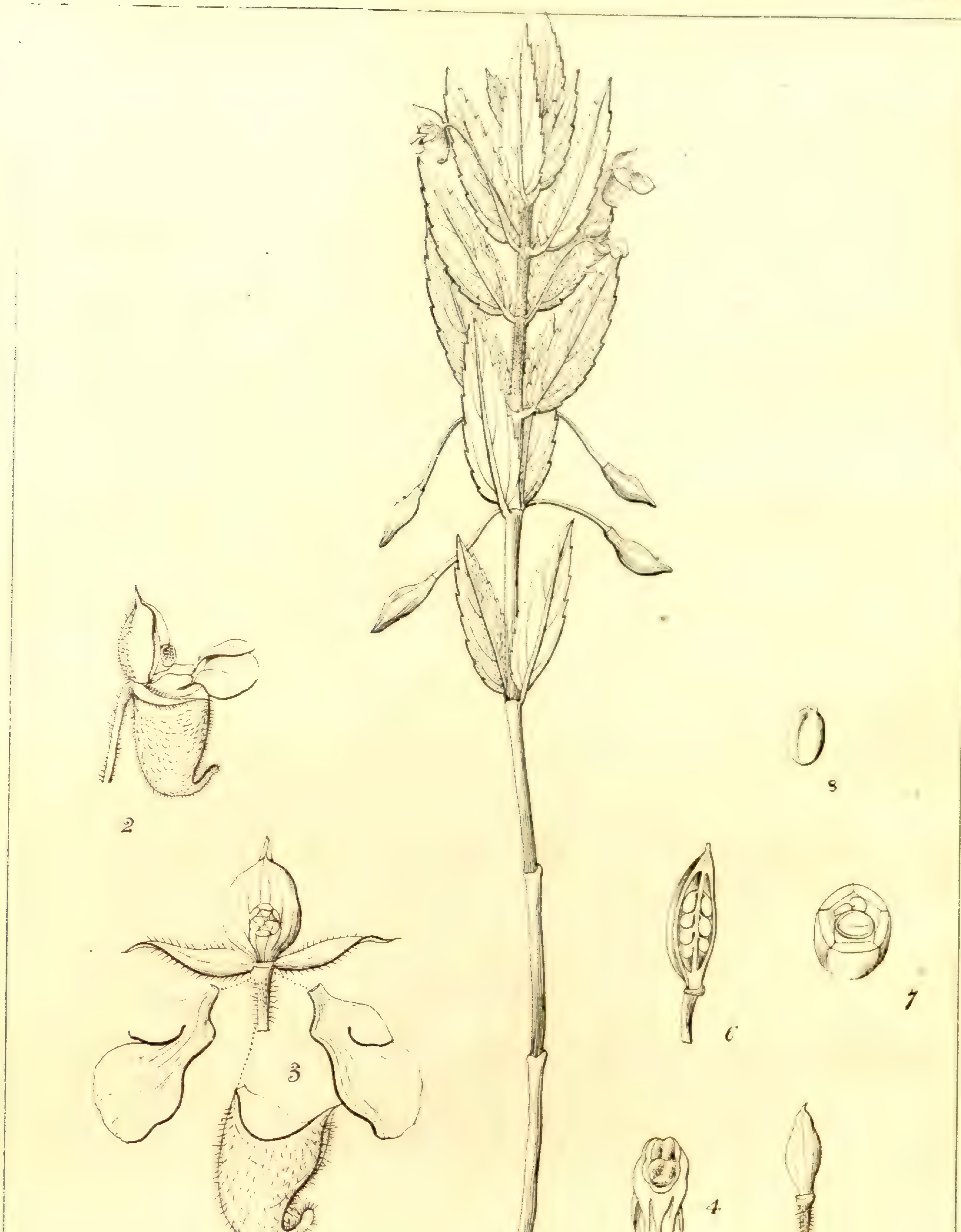
Impatiens viscida (R.W.)

Impatiens uncinata (R.W.)



Rungiah, del.

Impatiens fasciculata (Lam)

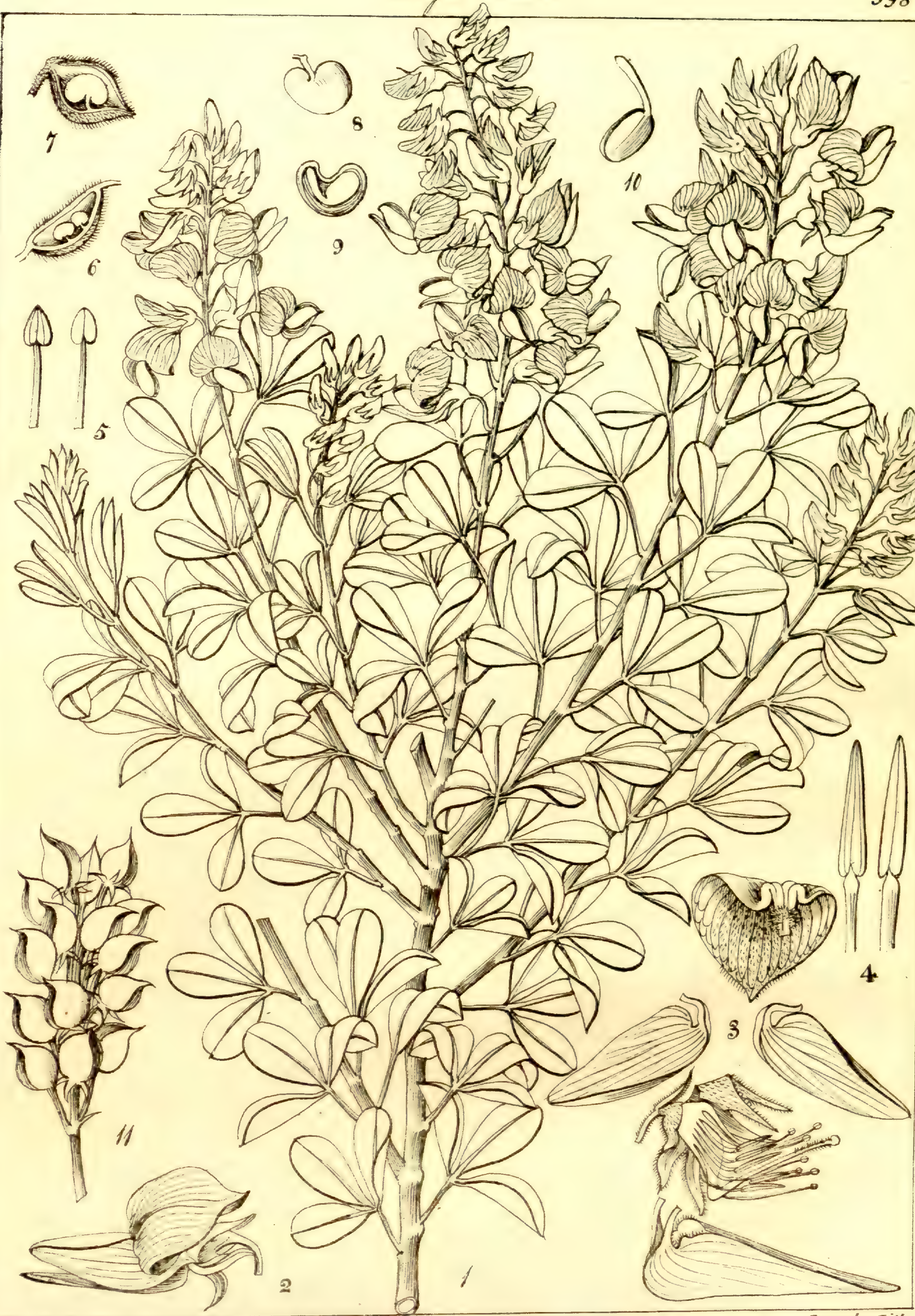


Impatiens tomentosa (Heyne)

Rung. h. Dumphy Lith.

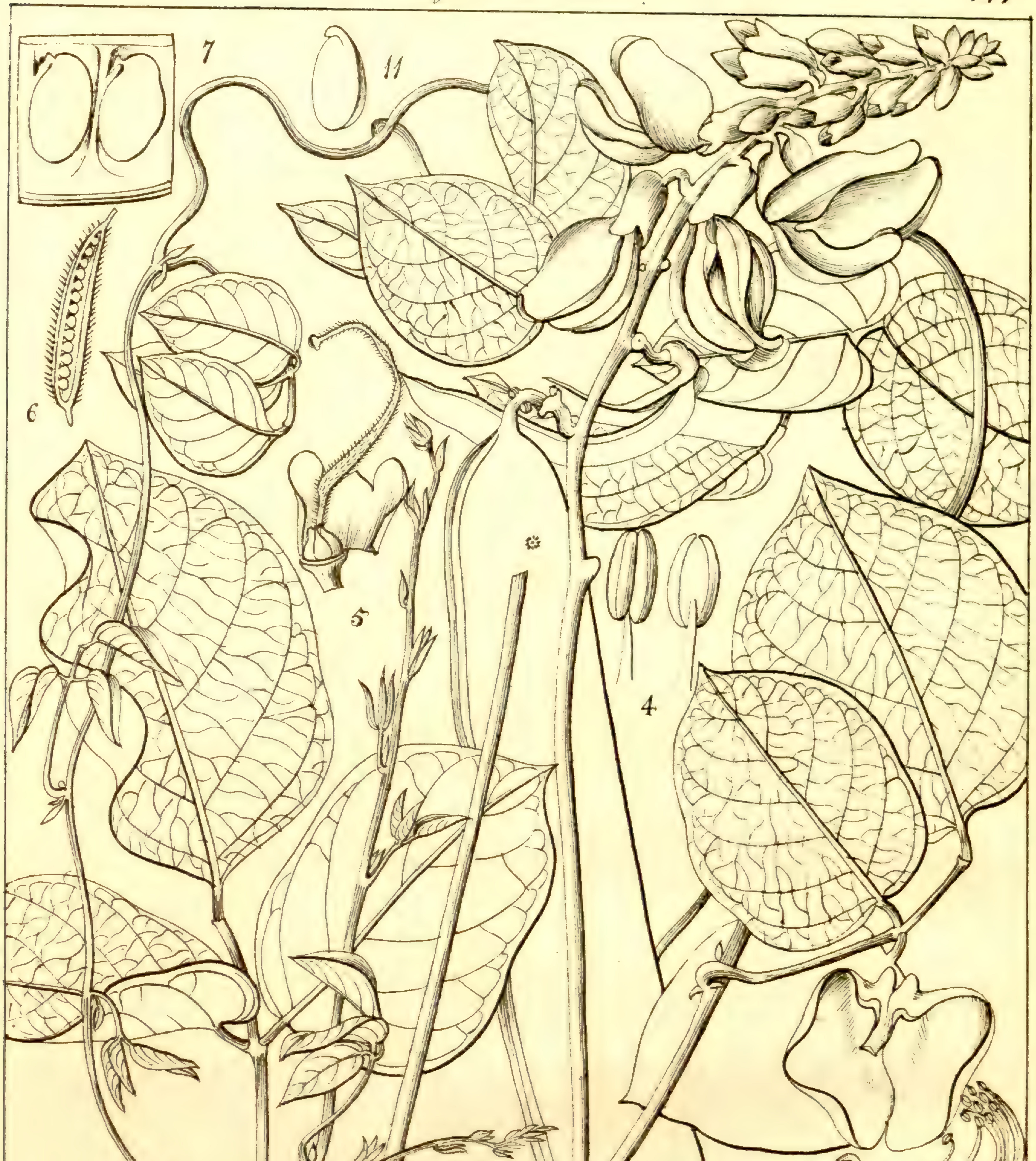
Impatiens rosmarinifolia ? (Retz.)

Impatiens rivalis



Rungiah del. Dumphy, Lith.

Crotalaria Notonii (W & A)



Dumphy lith.

Canavalia gladiata (D.C.)

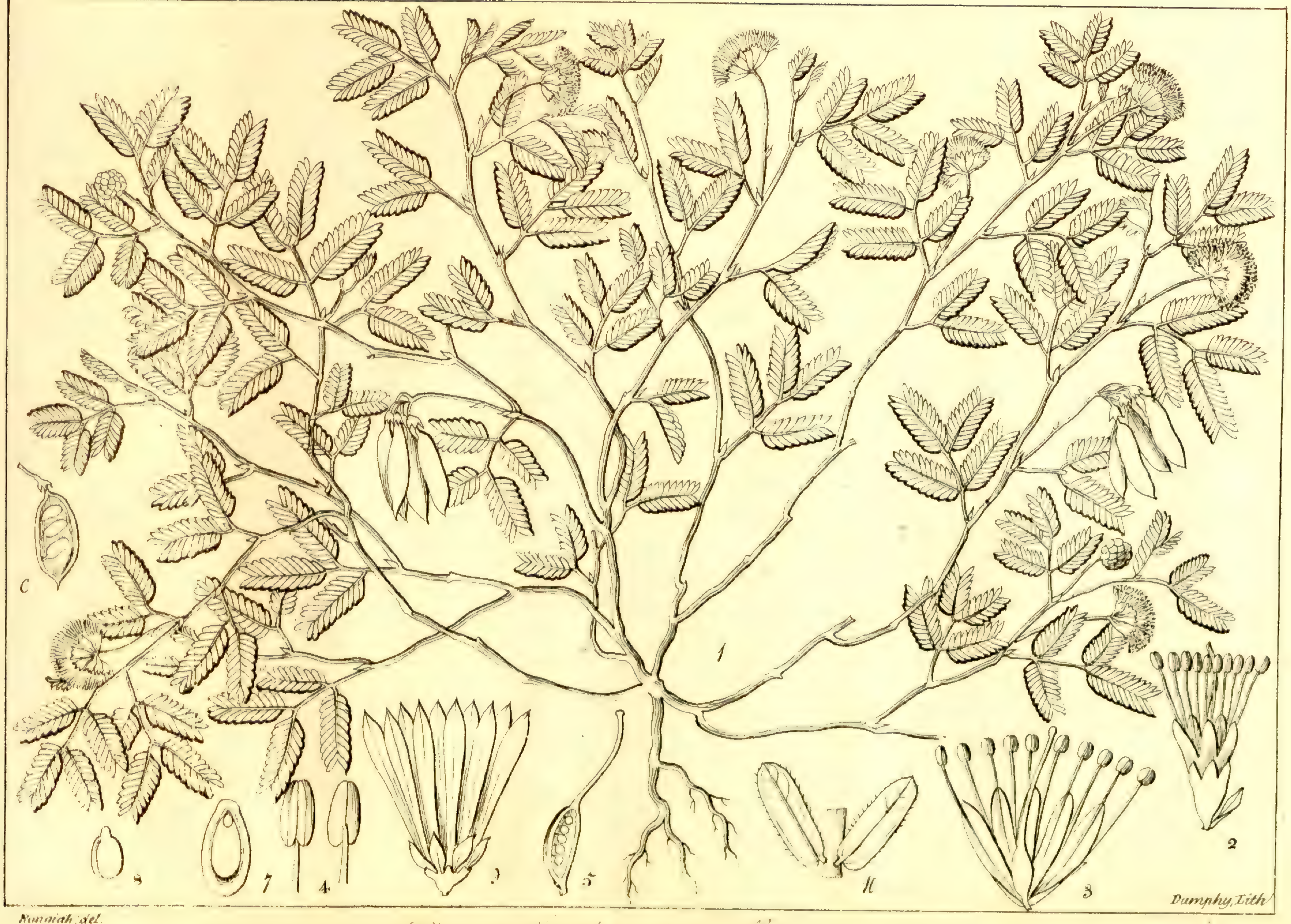
Rungiah del. Dunphy, Lith.

Atylosia Candollii (W & A)

பீன்சுவோடி
Peensoovodie } Tam

Phaseolus lunatus (*Linn*)

బీనుసుతెగ.
Beensoothega _ Tel.



Rungiah, del. Dumphy, Lith.

(Desmanthus triquetrus, Willd)

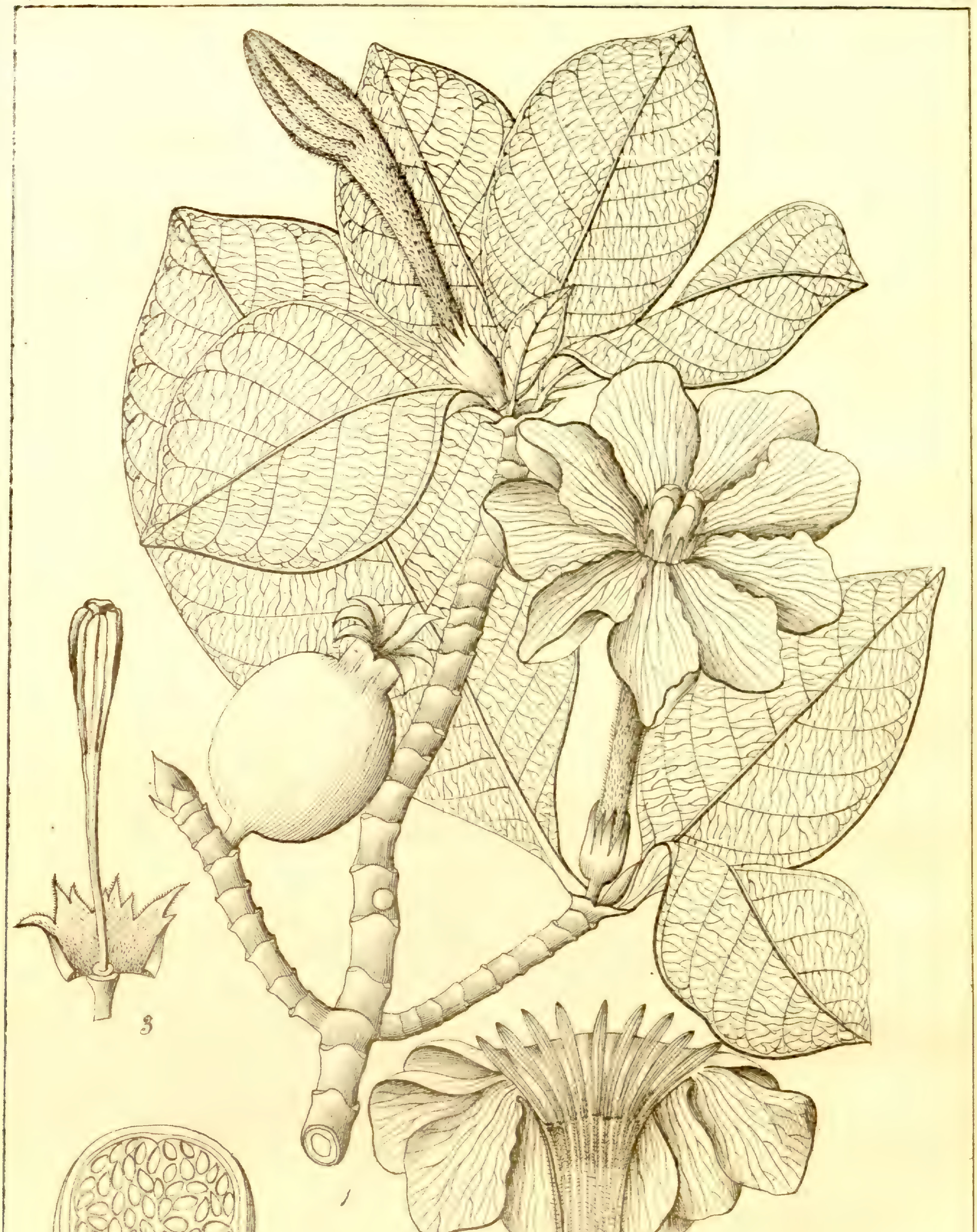
நிலாவரை
Neelavarie } Tam.

Cassia (S) obtusa (Roxb)

నేలతంగేడు
Nalathengadoo - Tel

Rungiah, del. Dumphy, Lith.

Bryonia Maysorensis (herb-Madr)



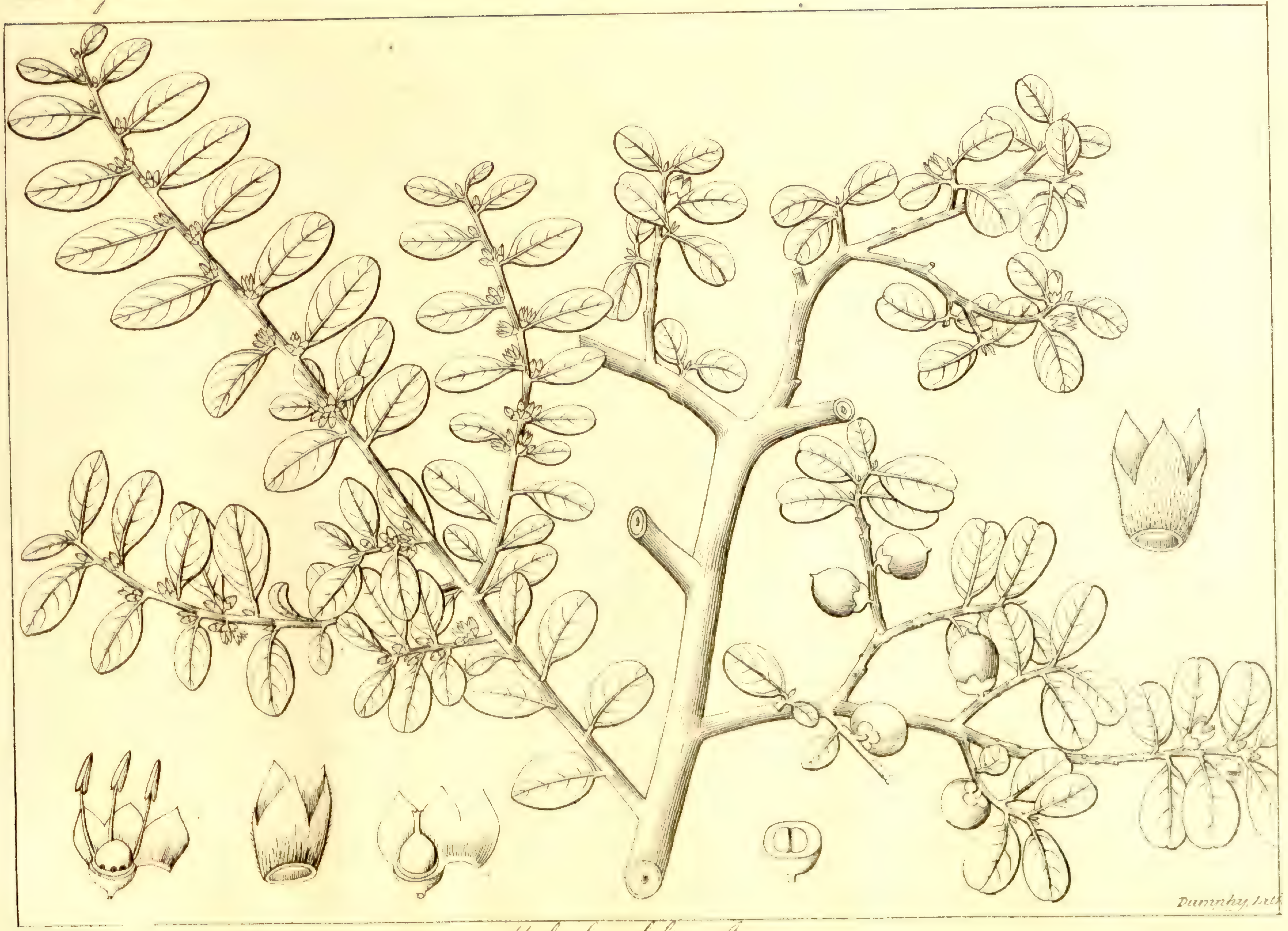
குமபைமரம்
Kumbamarum } Tam

Gardenia latifolia (Ait)

Hydrophylax maritima (Linn:)

Microtropis garcinifolia (Wall)
Euonymus garcinifolius (Roxb)

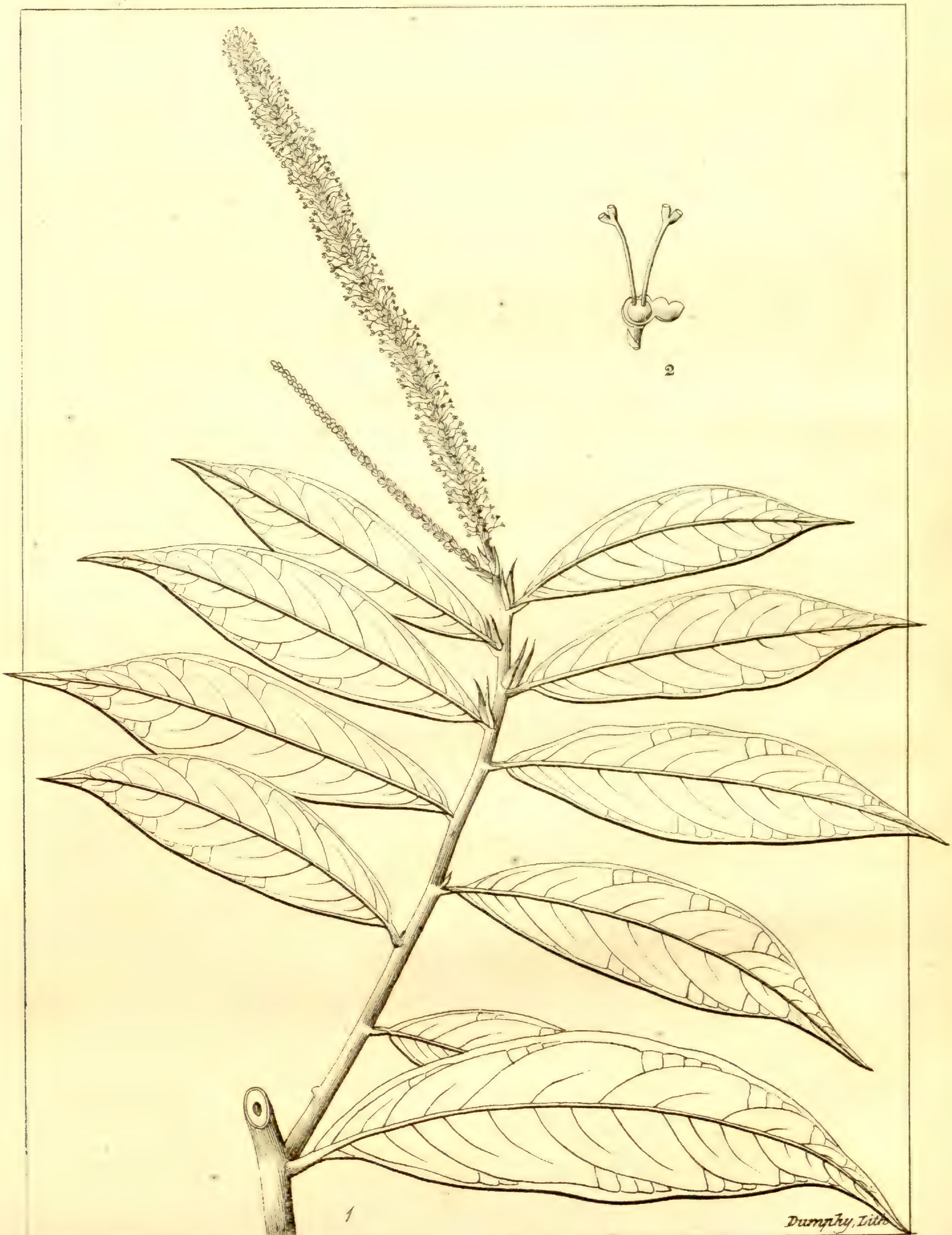
Ludevigia prostrata (Roxb.)



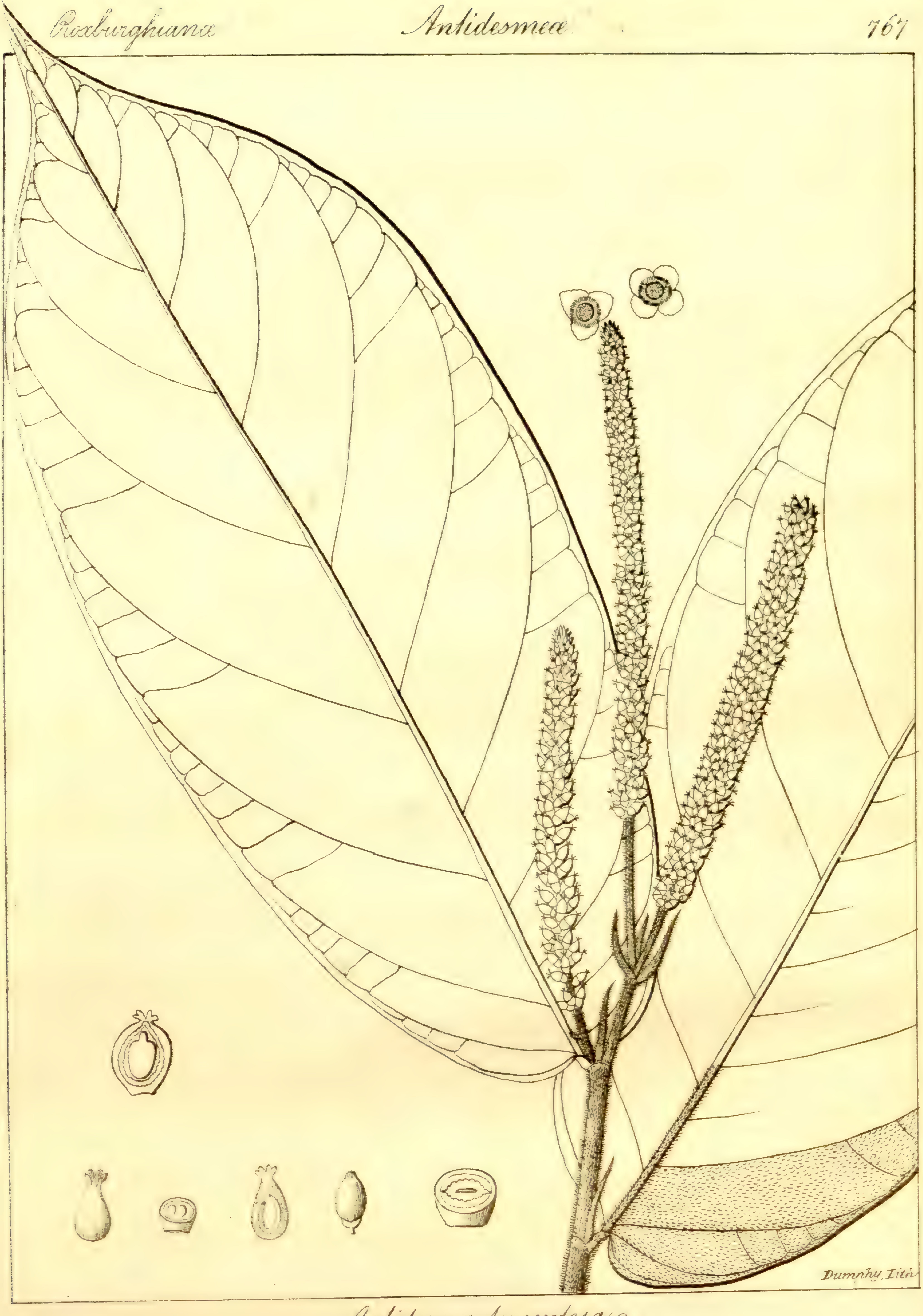
Maba buxifolia (Juss)
Ferreola buxifolia (Roxb)

Myrica integrifolia ♂. (Roxb)

Myrica integrifolia ♀ (Roxb)



Antidesma lanceolaria
Stilago lanceolaria (Roxb)



Antidesma tomentosa ♀
Stilago tomentosa (Roxb)

Antidesma tomentosa ♂
Stilago tomentosa (Roxb)

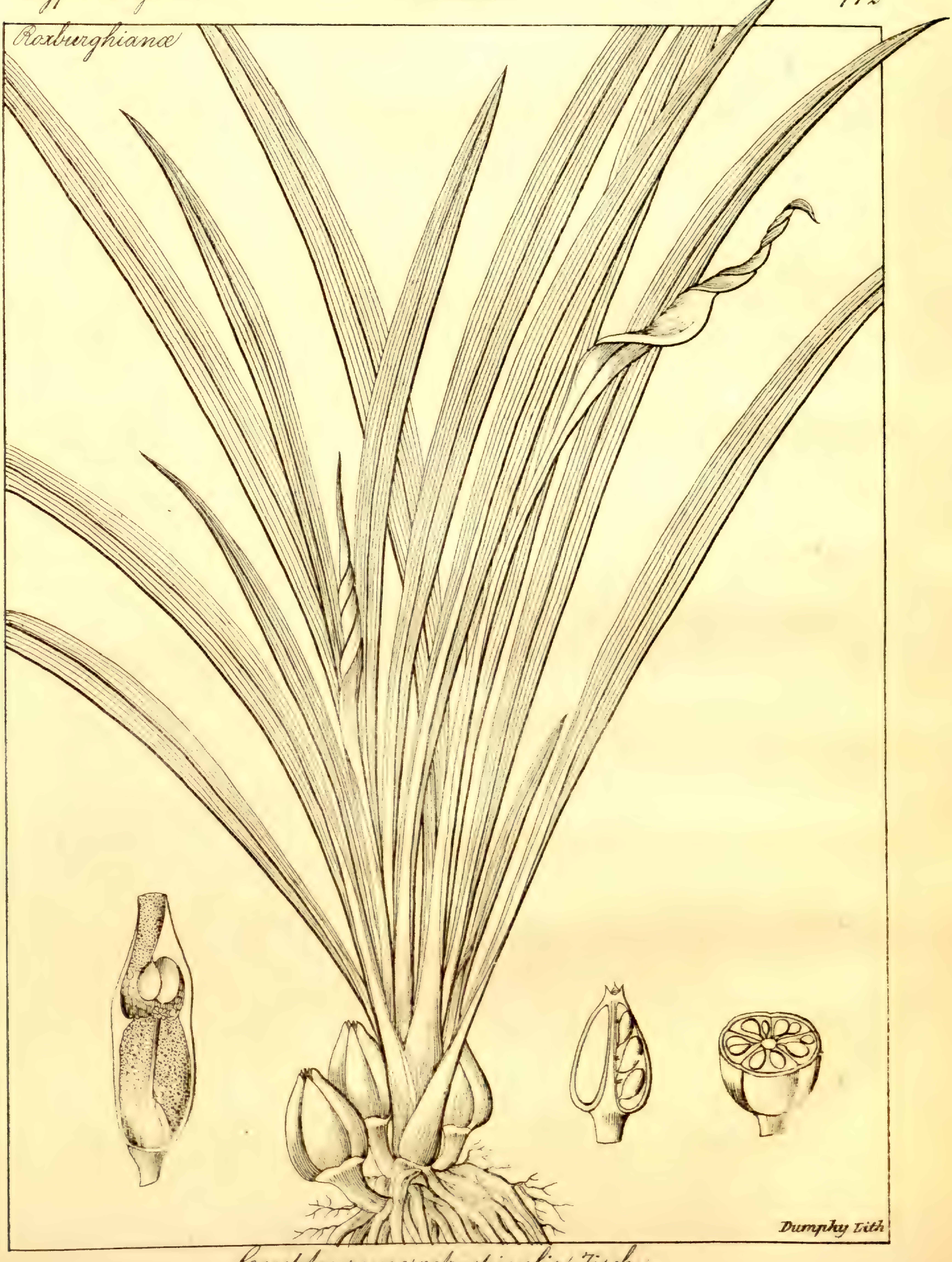
Quercus castanicarpa (Roxb)

Quercus armata (Roxb.)

Dumphy, Lith.

Aristolochia acuminata (Roxb)

Roxburghianæ



Dumphy Lith

Cryptocoryne retrospiralis (Fisch.)
Ambrosinia retrospirale (Roxb.)

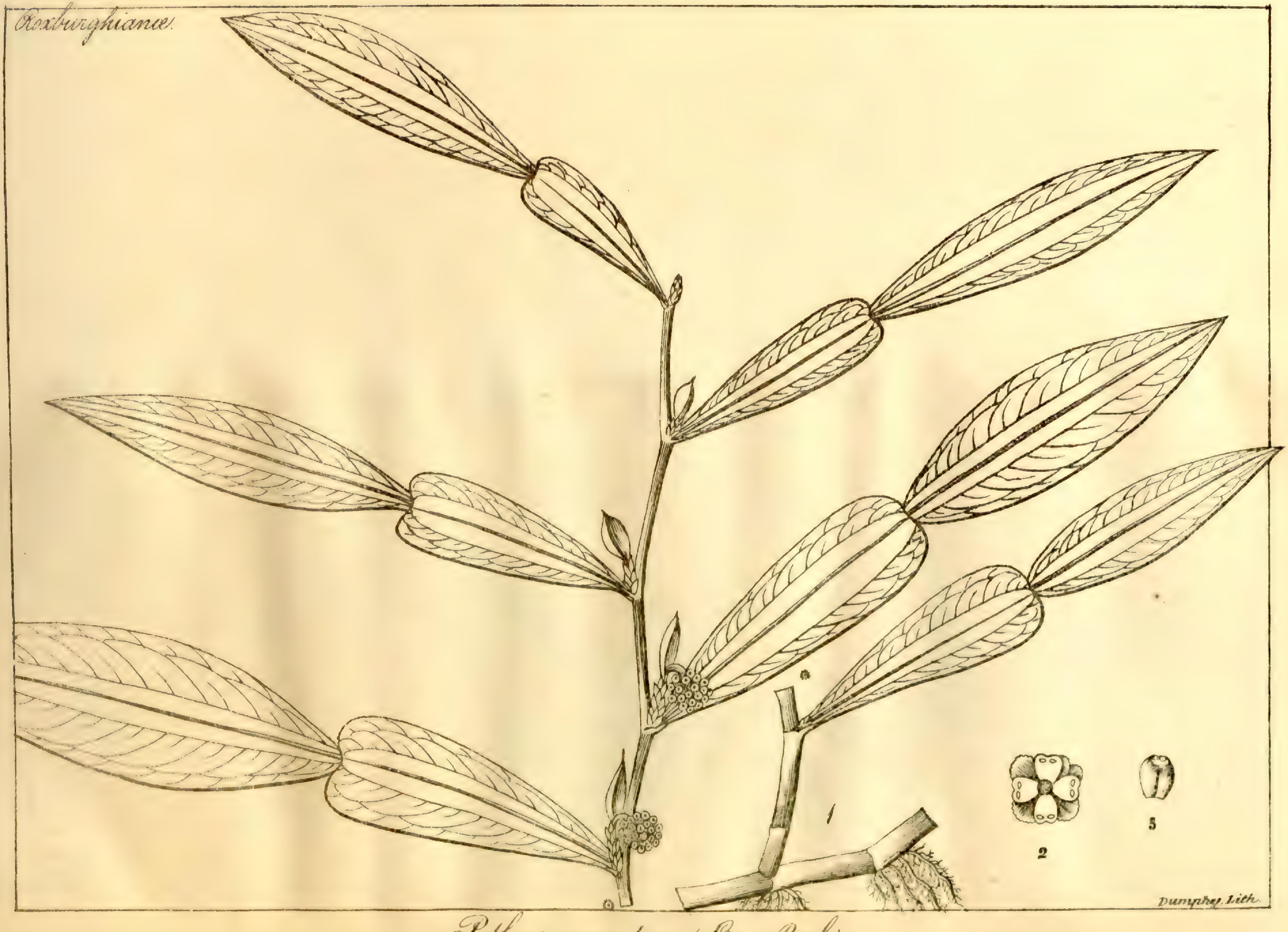
Roxburghianæ

Cryptocoryne spiralis (Fisch)
Ambrosinia spiralis (Roxb.)

Dumphy, Lith

Cryptocoryne? unilocularis
Ambrosinia unilocularis (Roxb)

Cryptocoryne ciliata (Fisch)
Ambrosinia ciliata (Roxb)



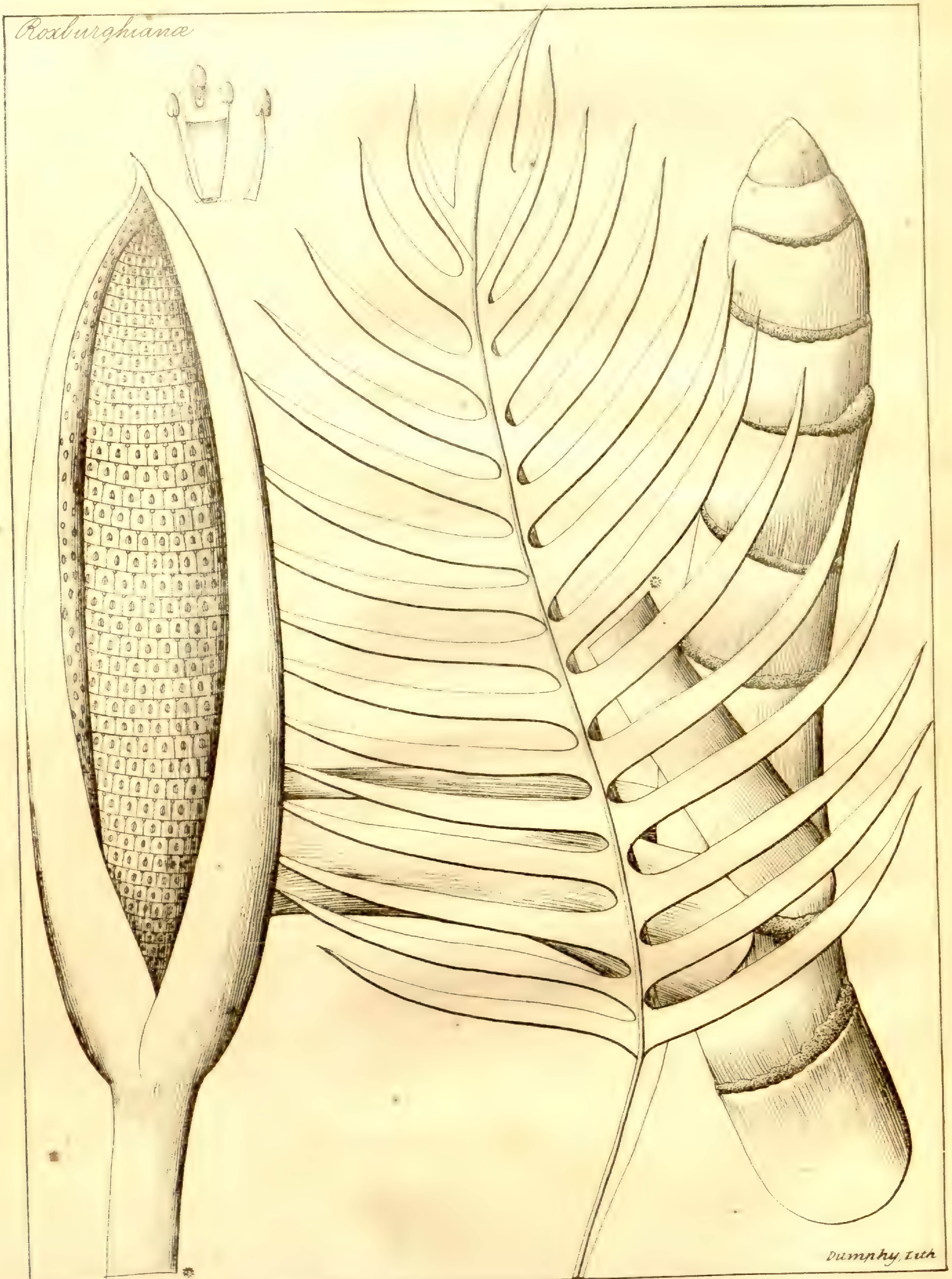
Pothos scandens (Lin - Roxb)

Roxburghianæ

Lasia heterophylla (Endl.)
Pathos heterophylla (Roxb.)

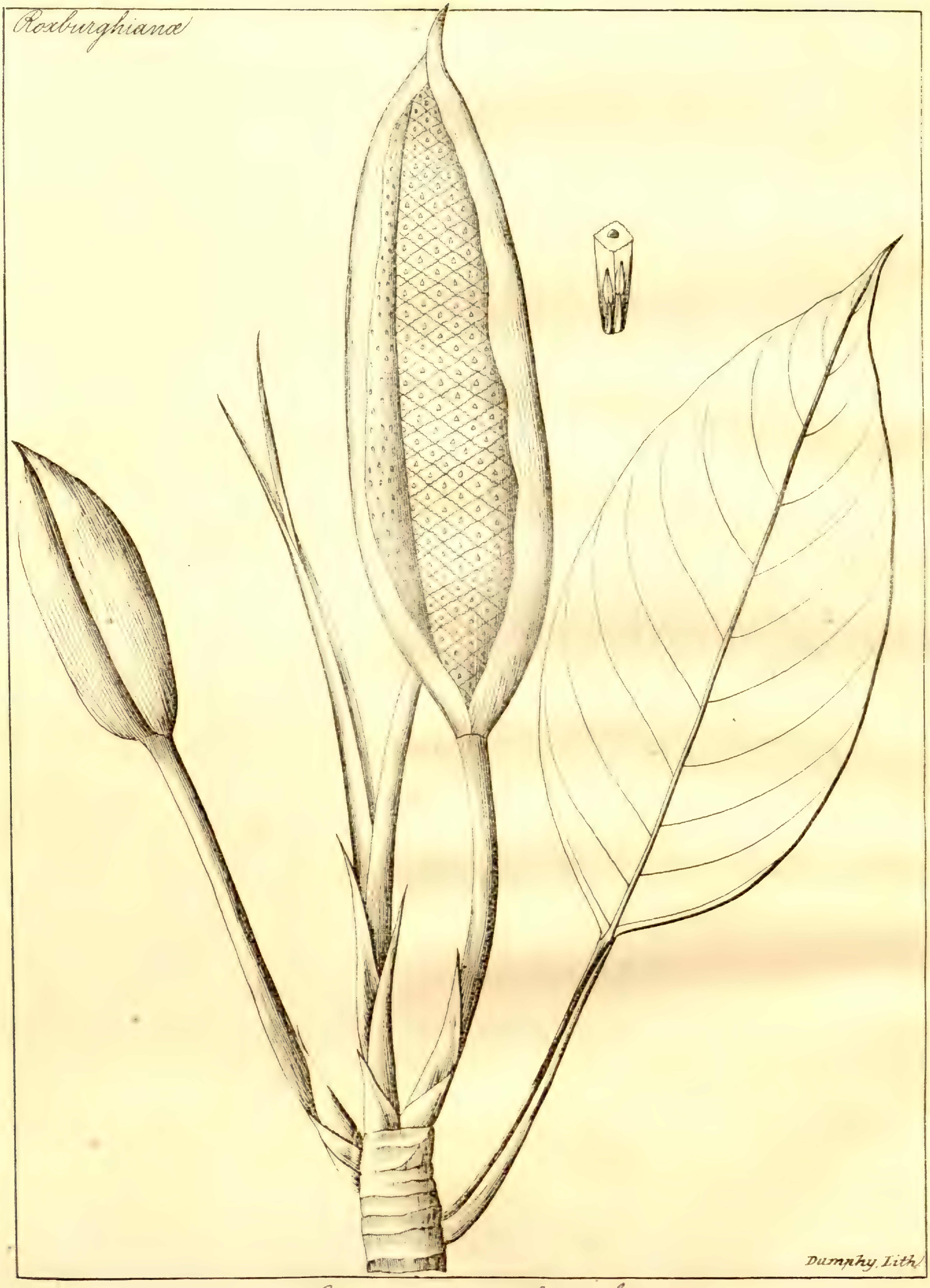
Scindapsus officinalis (schott)
Pathos officinalis (Roxb.)

Roxburghianæ



Scindapsus decursivus; (Scholl.)
Pothos decursivus; (Roxb.)

Roxburghianæ

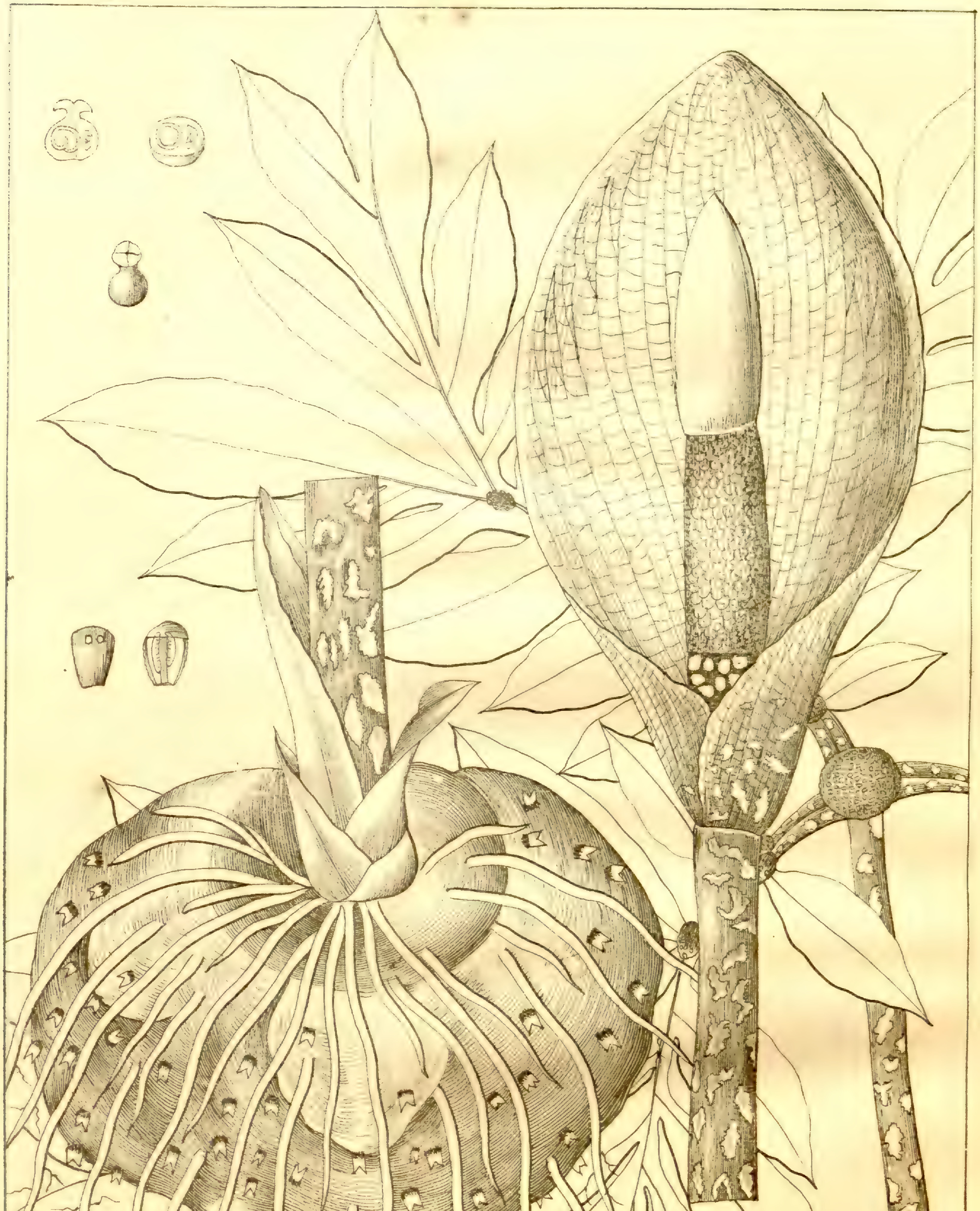


Dumphy. Lith.

Scindapsus peepla (Schott)
Pothos peepla (Roxb)

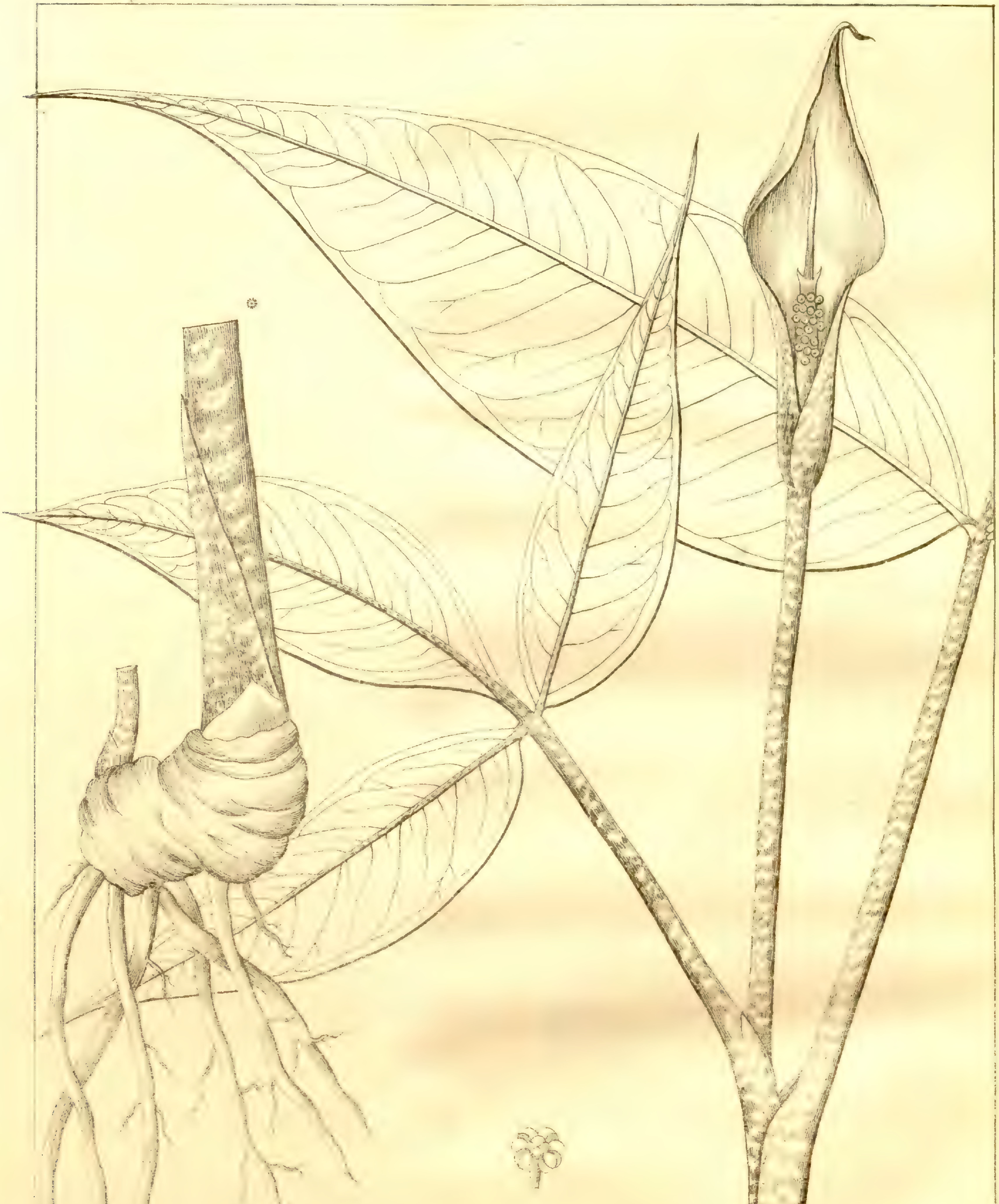
Scindapsus pertusas (Scholt)
Pothos pertusa (Roxb)

Arum campanulatum (Roxb.)



Dumphy, Lith.

Arum bulliferum (Roxb)
Pythonium (Schott)



rum cuspidatum (Roxb.)

Arum campanulatum (Roxb)
Amoophophallus - Decaisn.

1. Arum colocasia ? (Lin)
Colocasia antiquorum (Schott)
2. Arum nympæifolium (Roxb)
_Caladium nympææfolium (Vent)

Arum cuculatum (Roxb.)
Caladium Lour Colocasia (Schott.)

Arum curvatum (Roxb)
Arisæma (Mart)

Arum fornicatum (Roxb)
(Pinellia (Senor))

Arum divaricatum (Lin Roxb)
Typhonium (Schott)

Arum flagelliforme (Roxb)
Typhonium?

Dumphy, Lith.

Arum fornicatum

Pinellia; Tenor

1. Arum gracile (Roxb)
Typhonium ?
2. a flower. Nat= size

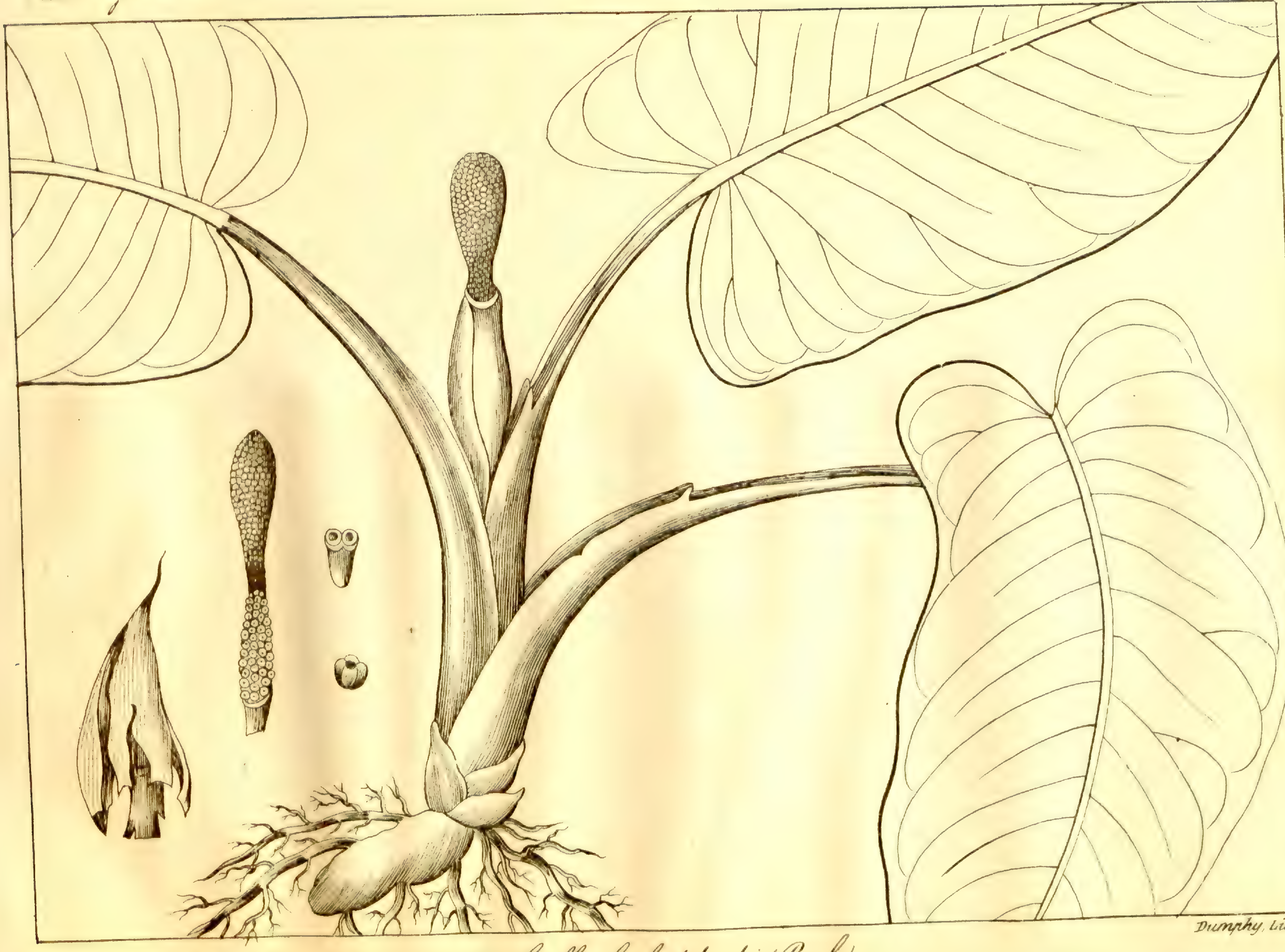
Arum indicum (Lour. Roxb.)
Colocasia (Ray Schott)

Arum margaritiferium (Roxb.)

Arum montanum (Roxb.)
Colocasia (Ray Schott)

Arum Odorum (Roxb.)
Colocasia (Ray Schott)

Arum viviparum (Roxb)
Remusatia (Schott)



Calla Calyptrata (Roxb.)

Dumphy Lith

Arum sessiliflorum (Roxb.)

Arum Orixense, Roxb.
Typhonium, Schott.

Dumphy, Lith.

Arum sylvaticum, (Roxb)
Pythonium?

Dumphy Lith.

Arum trilobatum (Lin Roxb)
Typhonium (Schott)

Calla picta (Roxb.)

Calla aromatica (Roxb)
Homalonema (Schott)

Dumphy Lith

Calla oblongifolia. Roxb.

Dunphy lith.

Calla rubescens (Roxb.)

Dumphy Lith

Calla virosa (Roxb.)

Kunda gurvaliga (Tel.)
Smilax ovalifolia (Roxb.)

Dioscorea alata (*Linn*)

Dumphy, Lith

Dioscorea dæmona (Roxb)

Dioscorea globosa (Roxb)

Dioscorea oppositifolia (Linn)

Dioscorea pentaphylla (Linn)

Dunphy, Lith.

Dioscorea tomentosa (Konig)

Roxburghianæ

Dunphy, Lith.

Mappa moluccana (Spr)

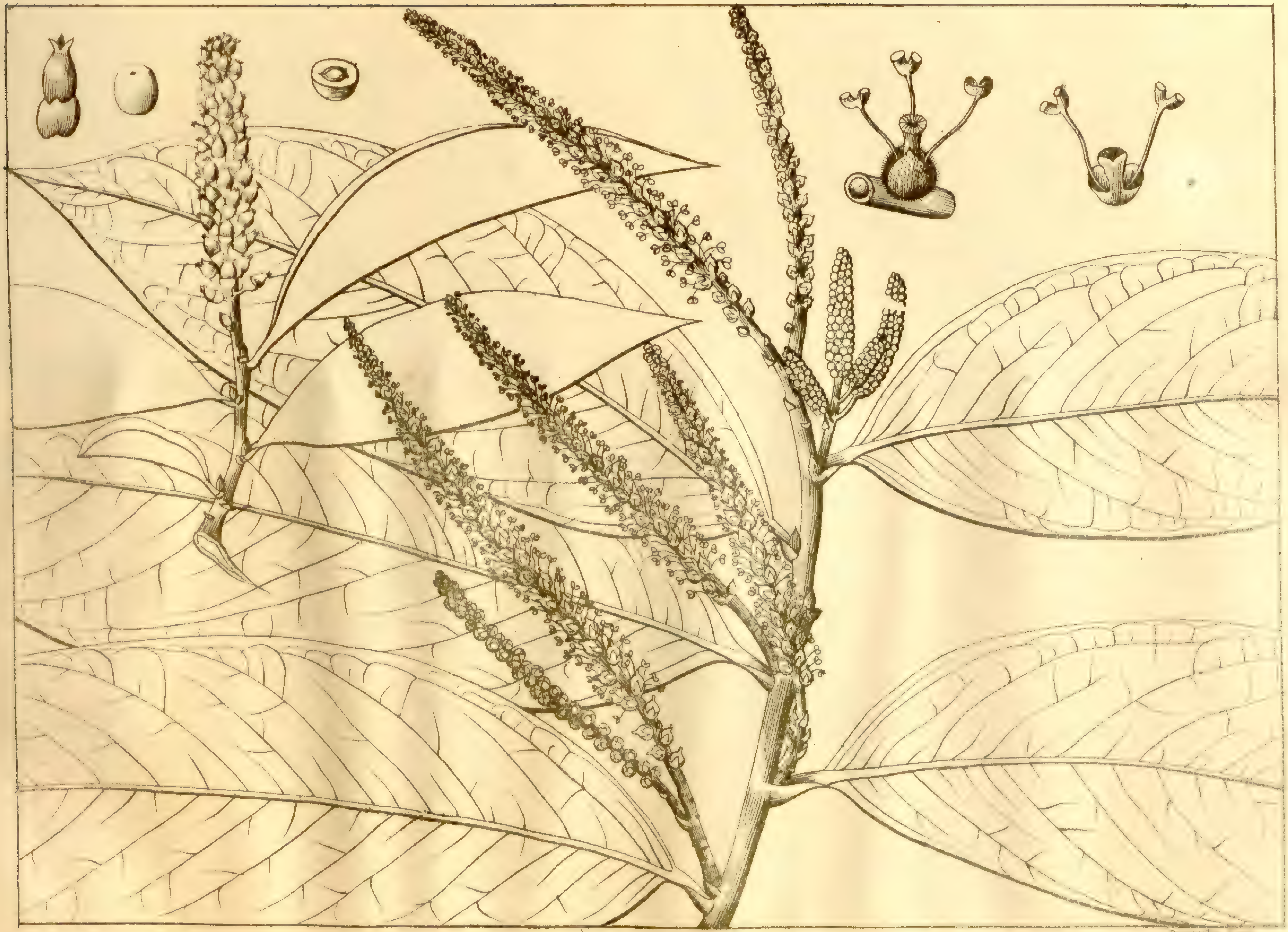
Ricinus mappa (Lin) Acalypha (Willd)

Mappa? peltata (R. W)
Osyris peltata (Roxb)

Roxburghianæ

Dumphy. Lith

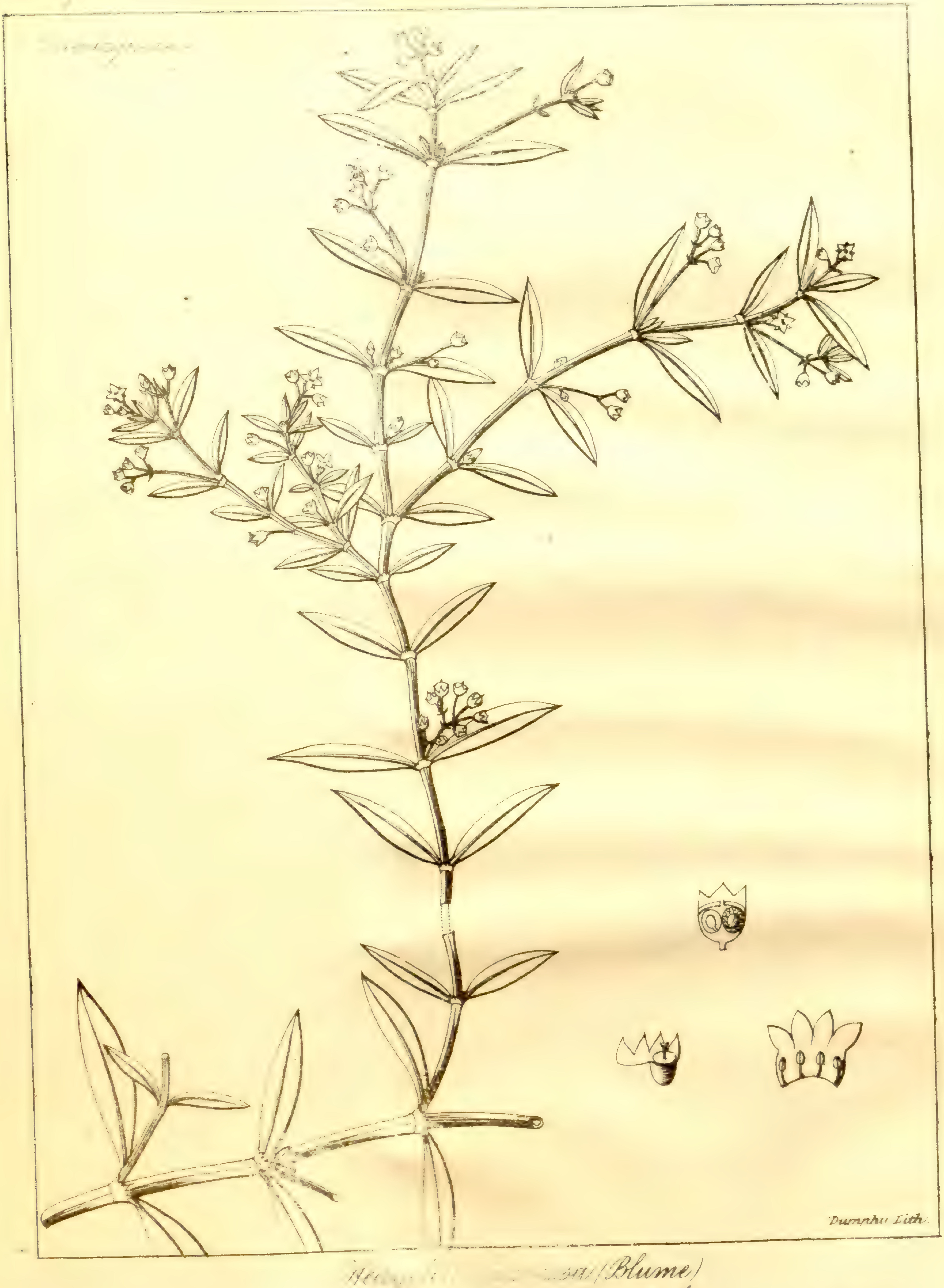
Spinacia tetranda (Roxb.)



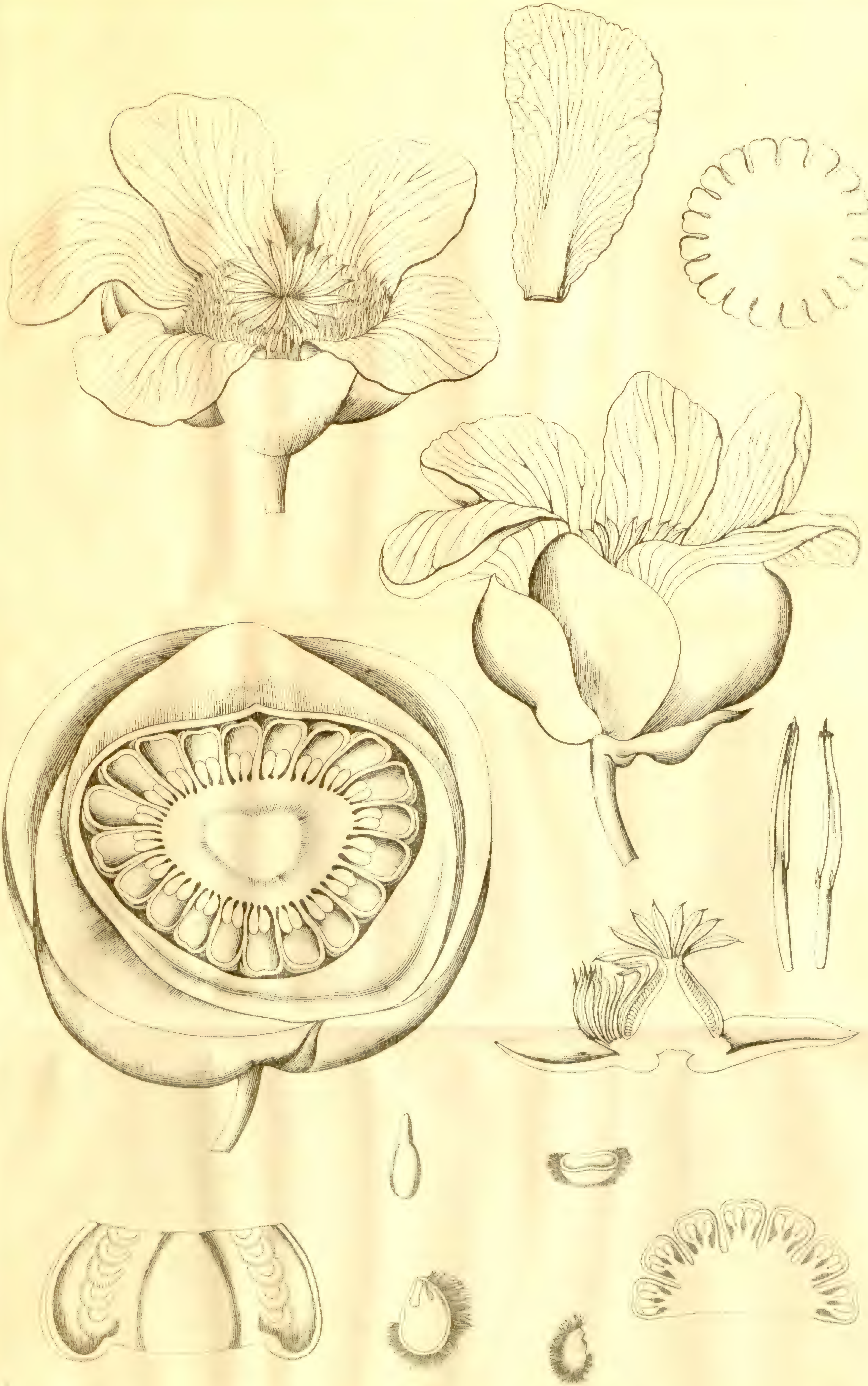
Antidesma Bunius (Spr.)
Stilago (Lin. Roxb.)

Antidesma paniculata (Roxb)

Antidesma pubescens (Roxb.)



Hed[illegible]sa (Blume)
(Old[illegible]mosa (Roxb)

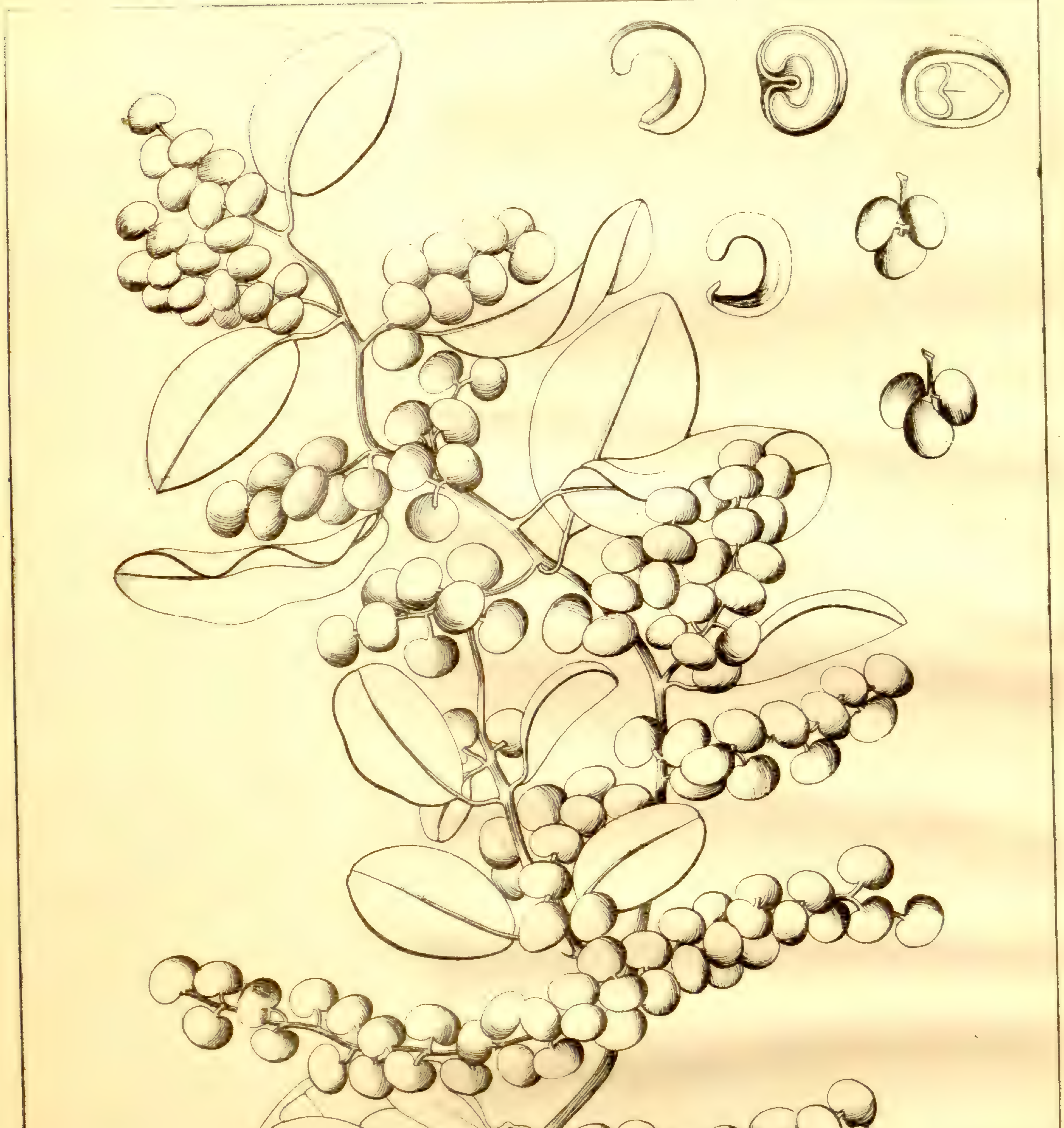


Rungiah, del.

Dillenia speciosa, Thunb.

Rungiah del. Dumphy Lith.

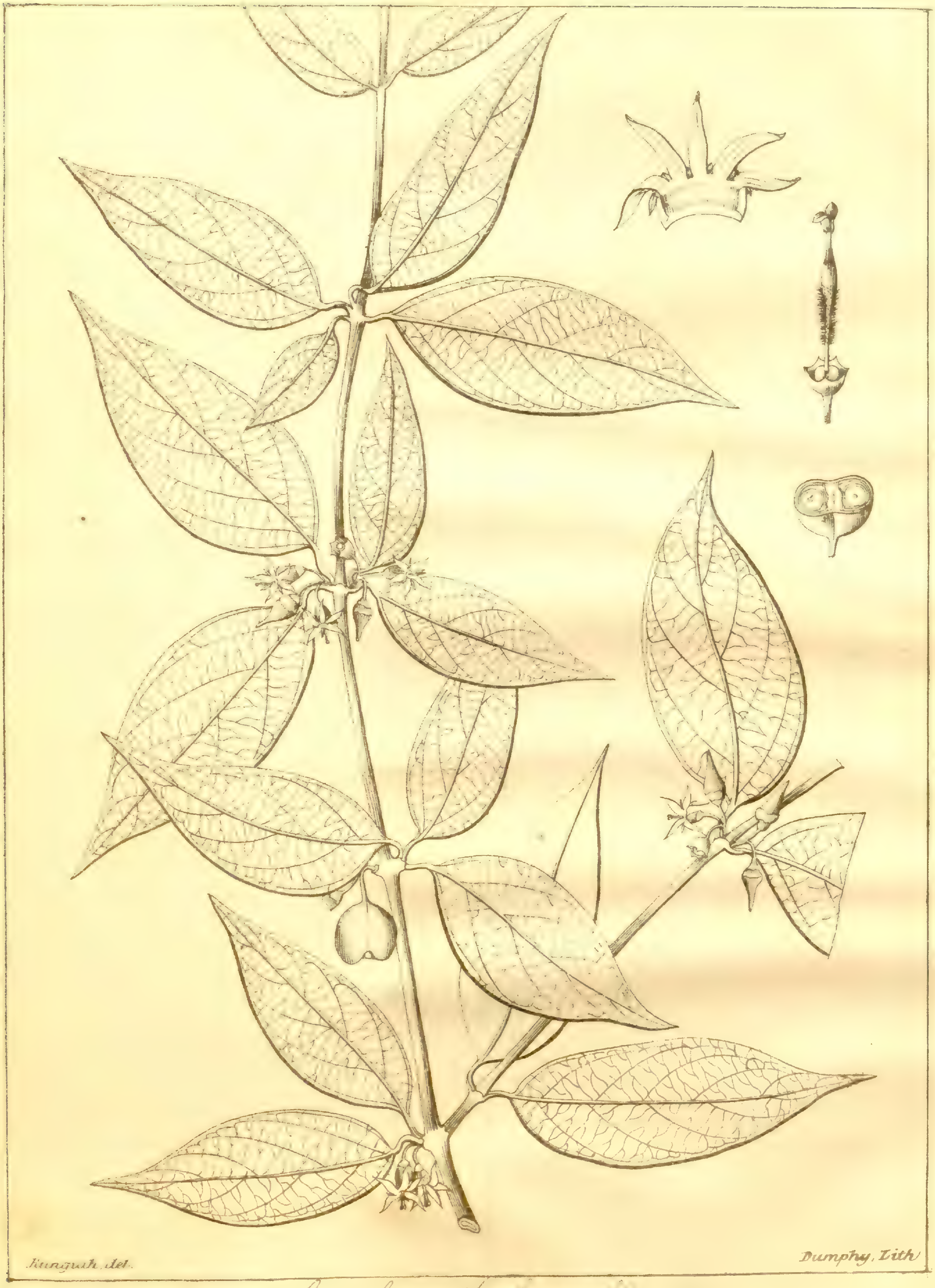
Cocculus Plukenetii ♂ (D.C.)



Rungiah. del.

Dumphy. Lith.

Cocculus Plukenetii ♀ (D.C.)



Kunguih del. Dumphy, Lith

Canthium Leschenaultii (W&A)

Rungiah; del. Dumphy, Lith

Ixora lanceolaria (Colebr)

Rungiah del. Dumphy Lith.

Seemoot-poovoo } Tamil

Psychotria lævigata (W & A)

Rungiah, del. Dunphy, Lith.

Vernonia Conyzoides (D.C.)

Iyengar(?), del. Dunphy, Lith.

Gymnema elegans (W & A)

Rungiah, del. Dumphy, Lith.

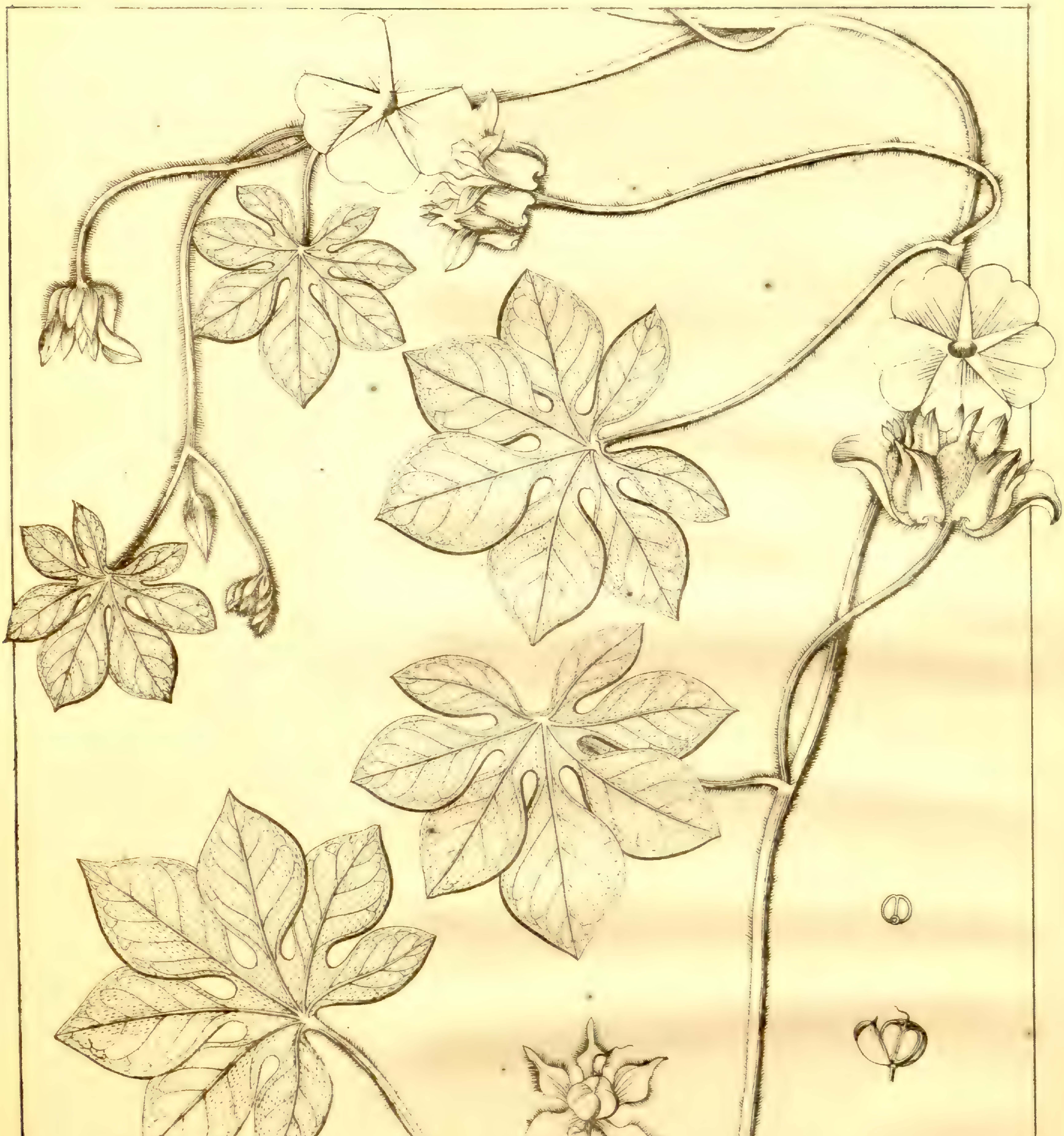
Cryptolepis grandiflora (R.W.)

Cryptostegia grandiflora (R. Br.)
Nerium grandiflorum (Roxb.)

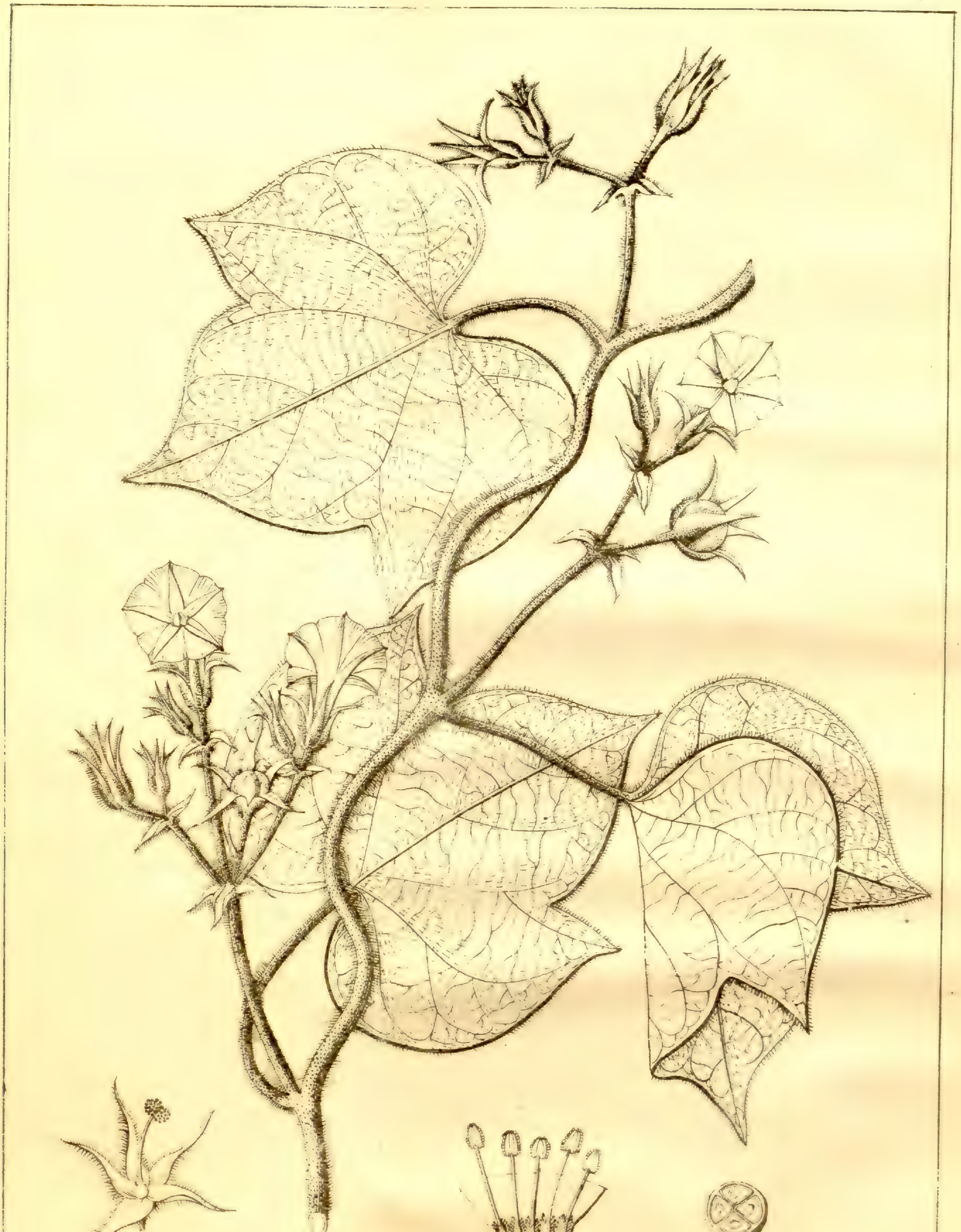
Aniseia calycina (Ch)

Batatus pentaphylla

Heivetia bicolor (W & A)
Shuteria bicolor (Ch)



Ipomæa pestigridis (Linn)



Ipomœa pilosa (Ch)

Rungiah del. Dumphy Lith.

Ipomœa sepiaria (Konig)

Rungiah; del. Dumphy lith.

Argyreia cymosa (Ch.)

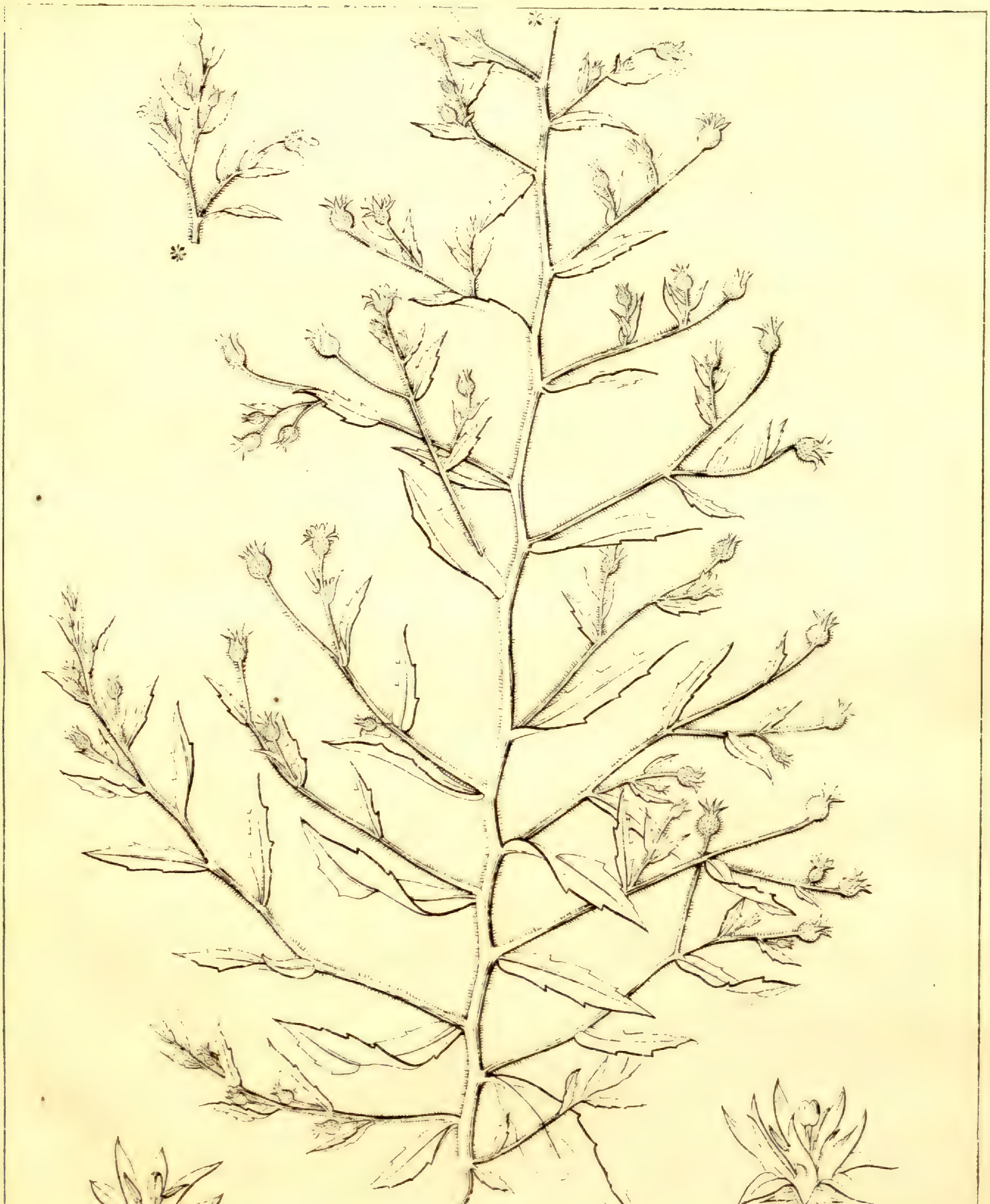
Rungiah, del. Dumphy Lith

Exacum Wightianum (Arn)

Rungiah del. Dunphy Lith.

காட்டுகத்திரி } Tam:
Cottoo Cutteree }

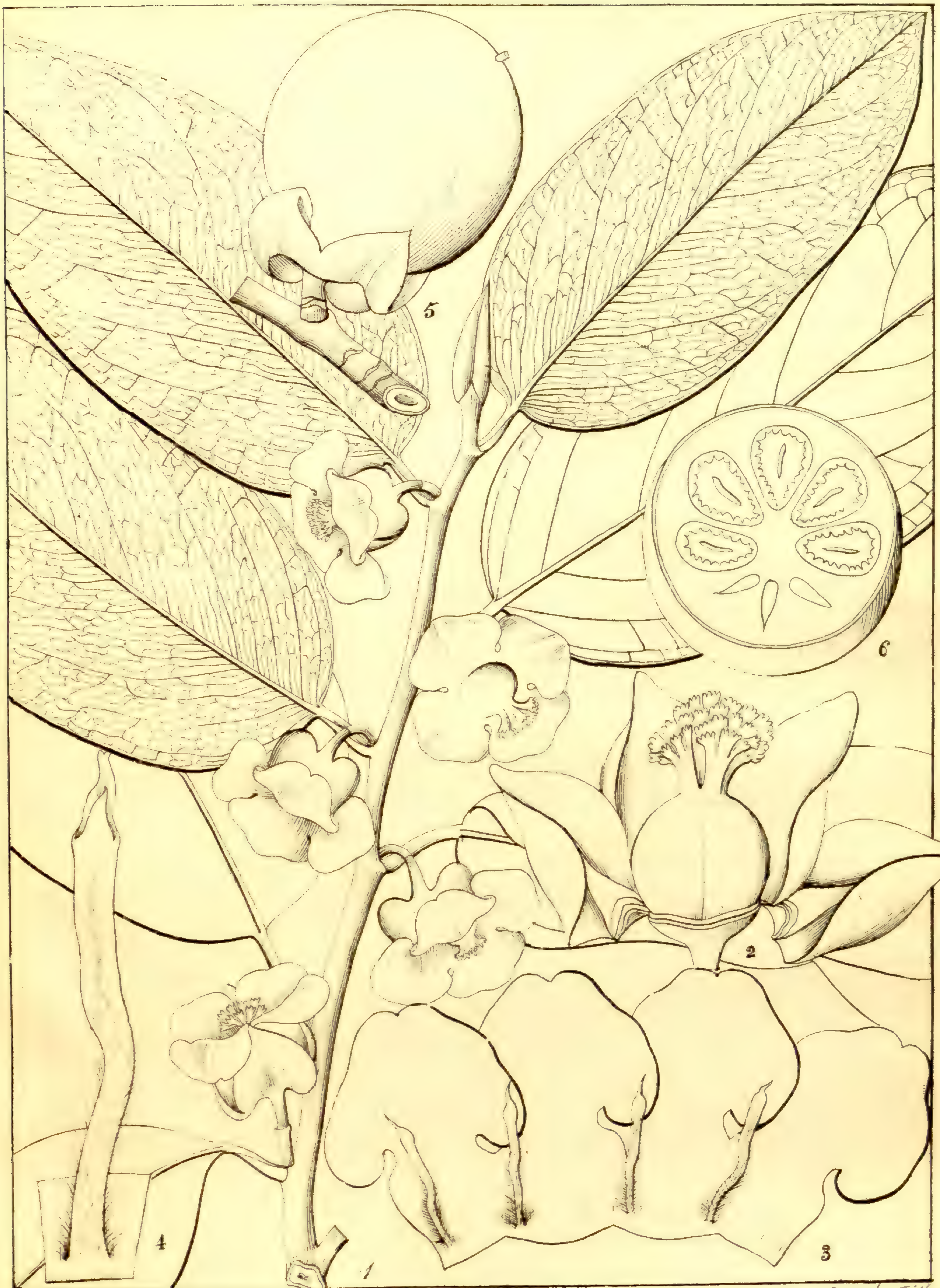
Solanum Wightii (Nees)



Wahlenbergia perotifolia (W & A)

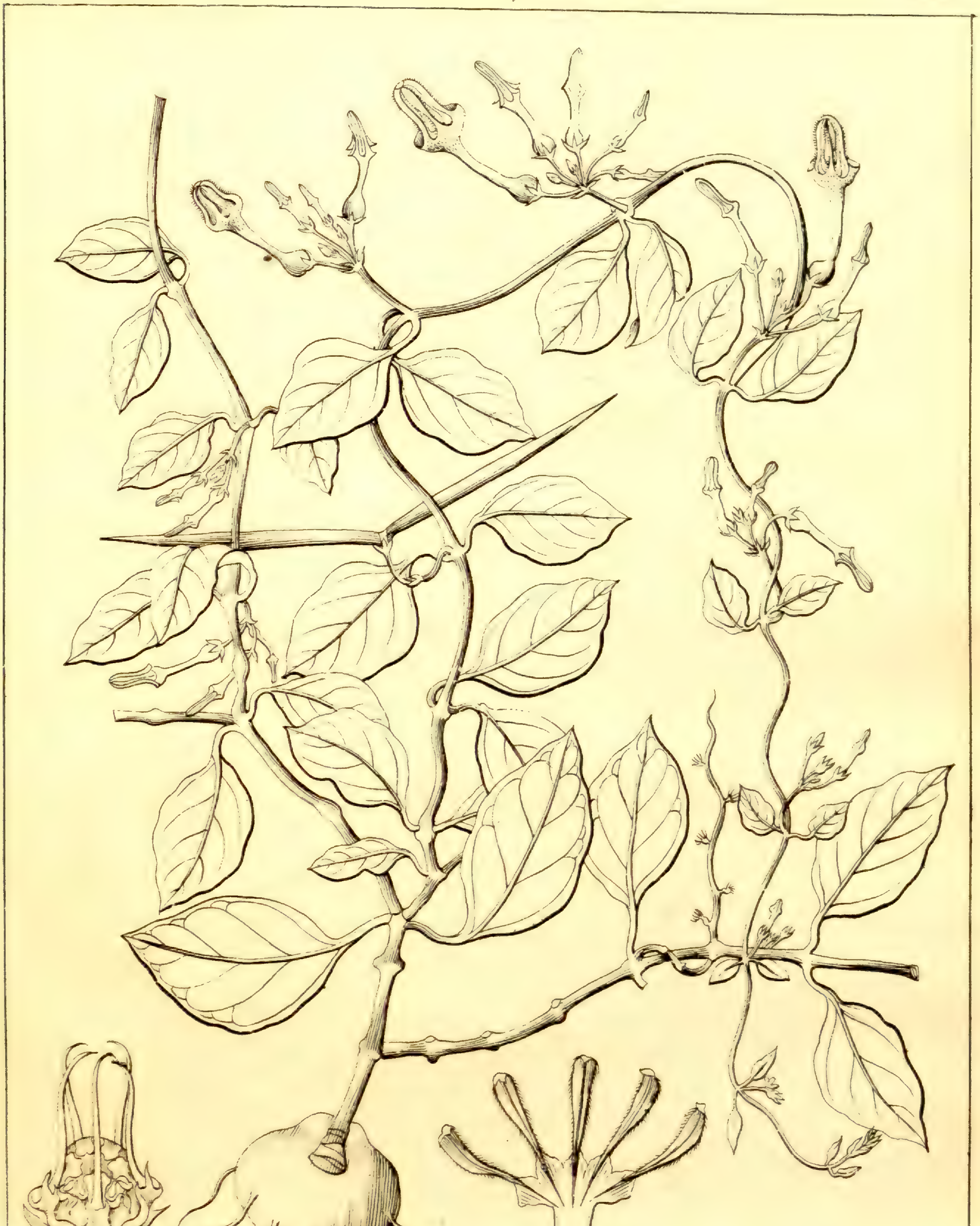
Rungiah, del. Dunphy, Lith.

Embryopteris glutenefera ♂ (Roxb)



Rungiah, del. Dumphy, Lith.

Embryopteris glutenefera ♀ (Roxb.)



Rungiah, del.

Ceropegia bulbosa (Roxb)

Rungiah: del.

Ceropegia mysorensis (R.W)

Rungiah, del. Dumphy lith.

Hoya ovalifolia; W & A

Rungiah del. Dumphy, Lith.

Tylophora fasciculata (Ham)

Dunphy Lith

Ophioxylon serpentinum (Linn)

Rungiah, del. Dunphy lith

Aniseia uniflora (Chois)
Convolvulus Rheedii, (Wall)

Rungiah, del. Dumphy, Lith.

Argyreia speciosa (Sweet)

Rungiah del. Dumphy, Lith.

Datura alba (Nees)

[illegible]makerang-kelungoo } Tam

Physalis somnifera (Link)
var flexuosa (Nees)

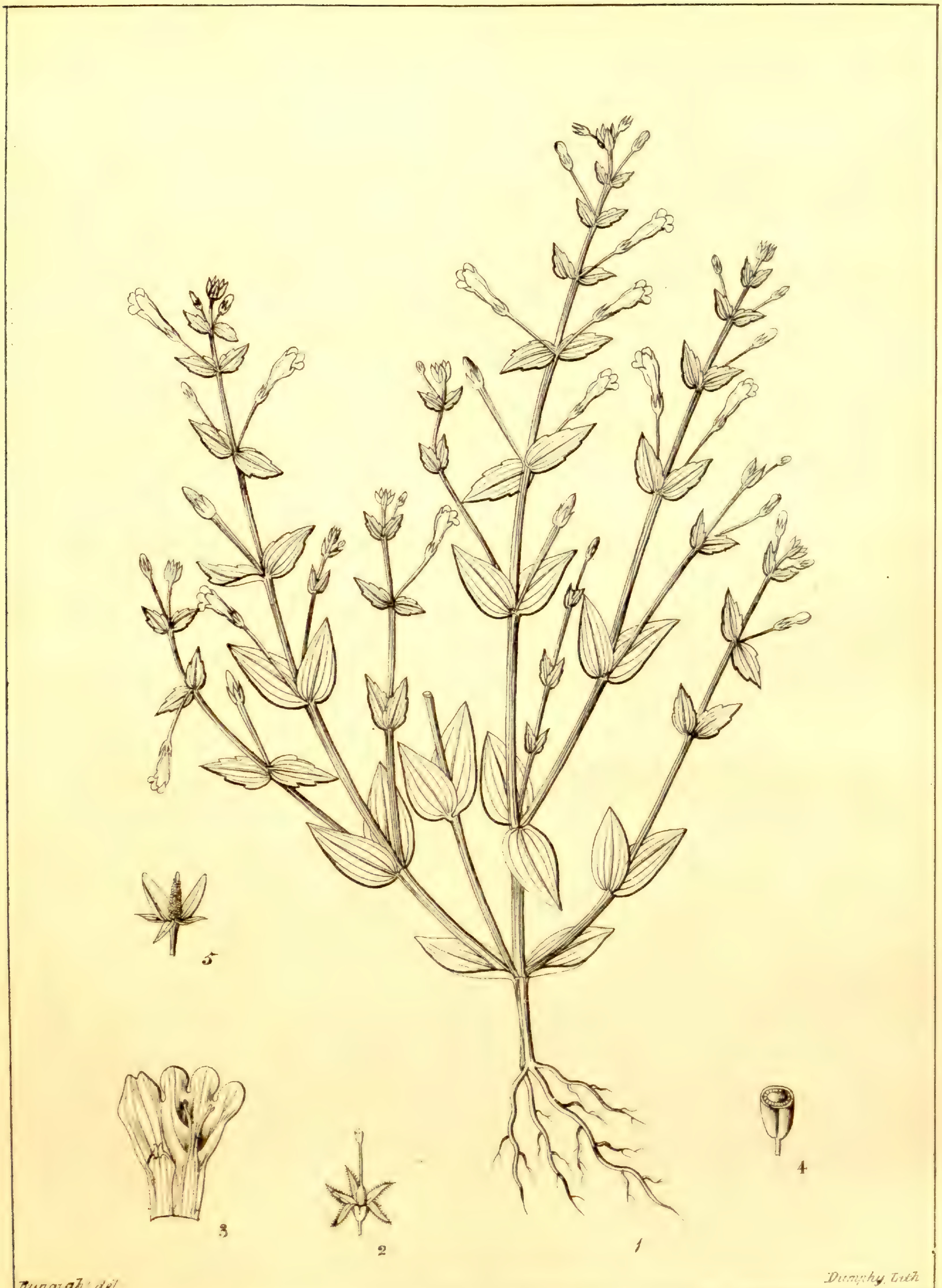
Pennaru Gaddi } Tel.

Solanum trilobatum

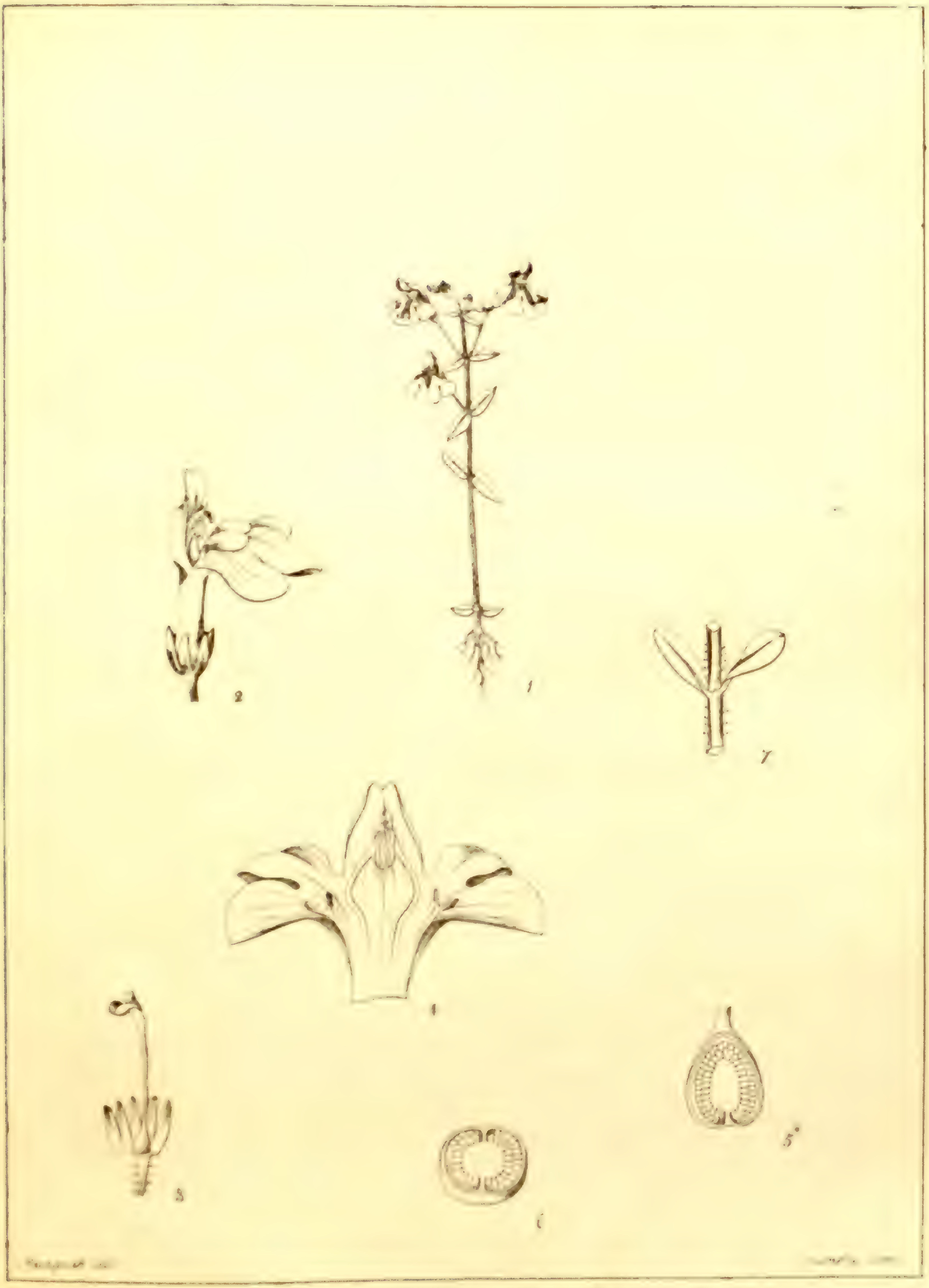
Buchnera euphrasioides Benth.

Rungiah, del. Dumphy Lith.

Sutera glandulosa (Roth)

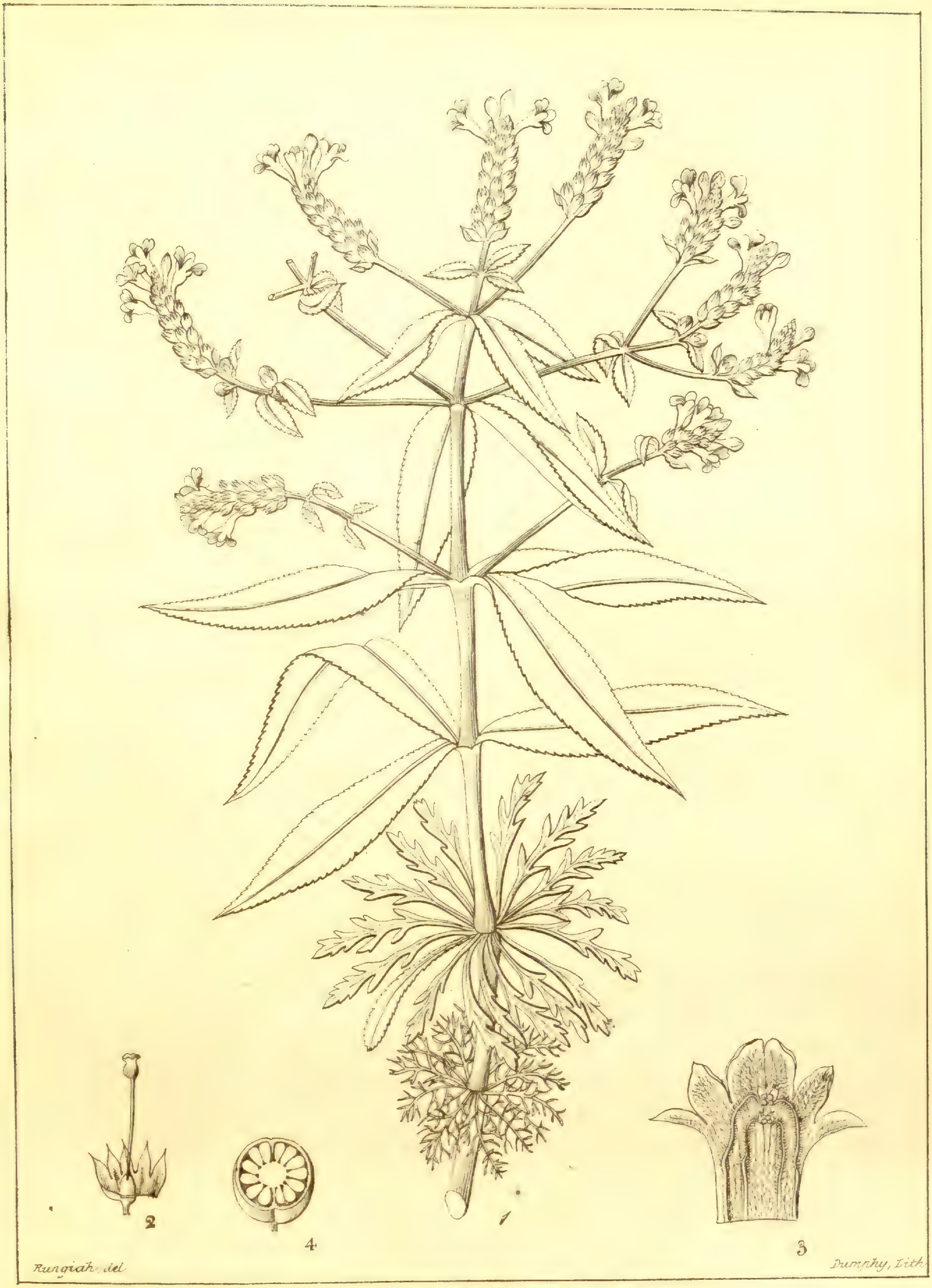


Bonnaya hyssopioides



Bonnaya minima? G. Don

Dopatrium lobelioides (Benth.



Limnophilla polystachya

Rangiah del. Dumphy, Lith.

நீர்நொச்சிப்பாசி { Tam
Neernudy Pausey

Limnophilla racemosa Benth.

Rungiah, del. Dunphy, Lith.

Torinia asiatica (Linn)

ungiah del. Dumphy, Lith.

Vandellia crustacea (Benth)

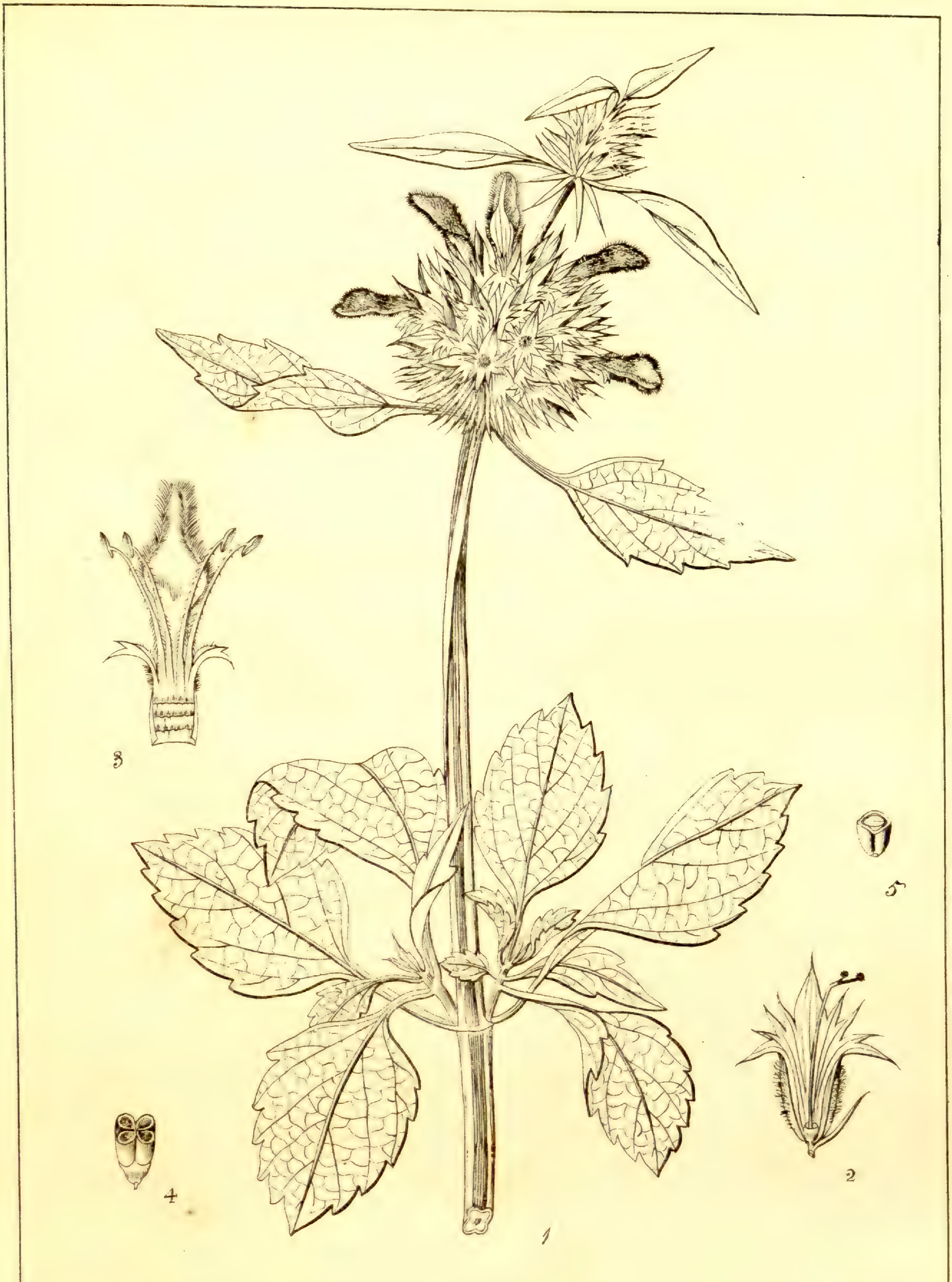
Rungiah del. Dumphy Lith.

Anisomiles malabarica (R. Br.)

Anisomeles ovata R. Br.

Rungiah, del. Dumphy, Lith.

Leucas biflora (R. Br.)



Leonotis nepetæfolia (R. Br.)

திருநீற்றுப்பச்சை.
Theeroonoothooputchie

Ocimum Basilicum Benth
Var-thyrsiflorum

Rungiah, del. Dumphy, lith.

Premna latifolia (Rox.)

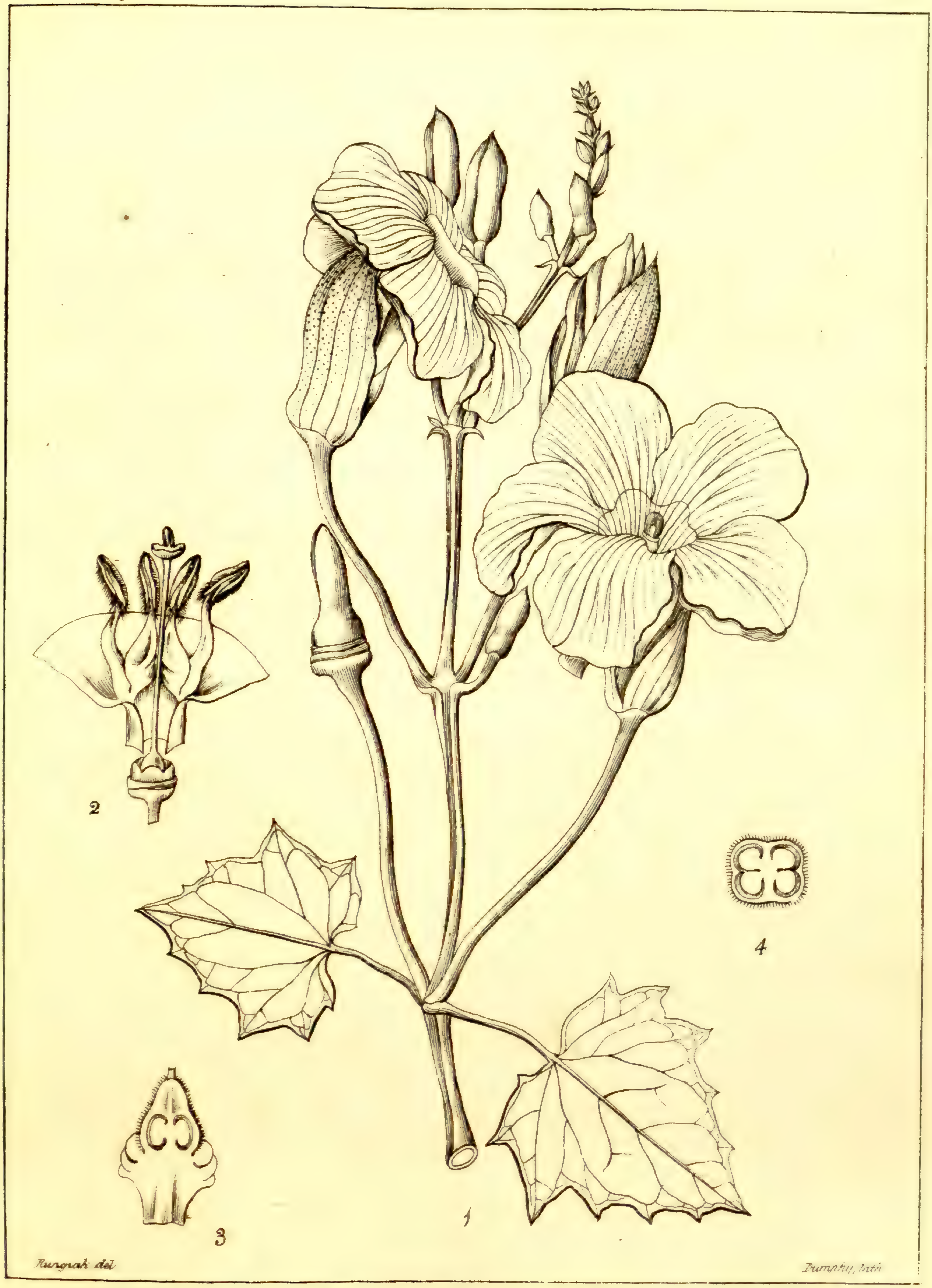
Rungiah del. Dumphy, Lith

Barleria buxifolia (Linn)

Rungiah, del.

Dumphy, lith.

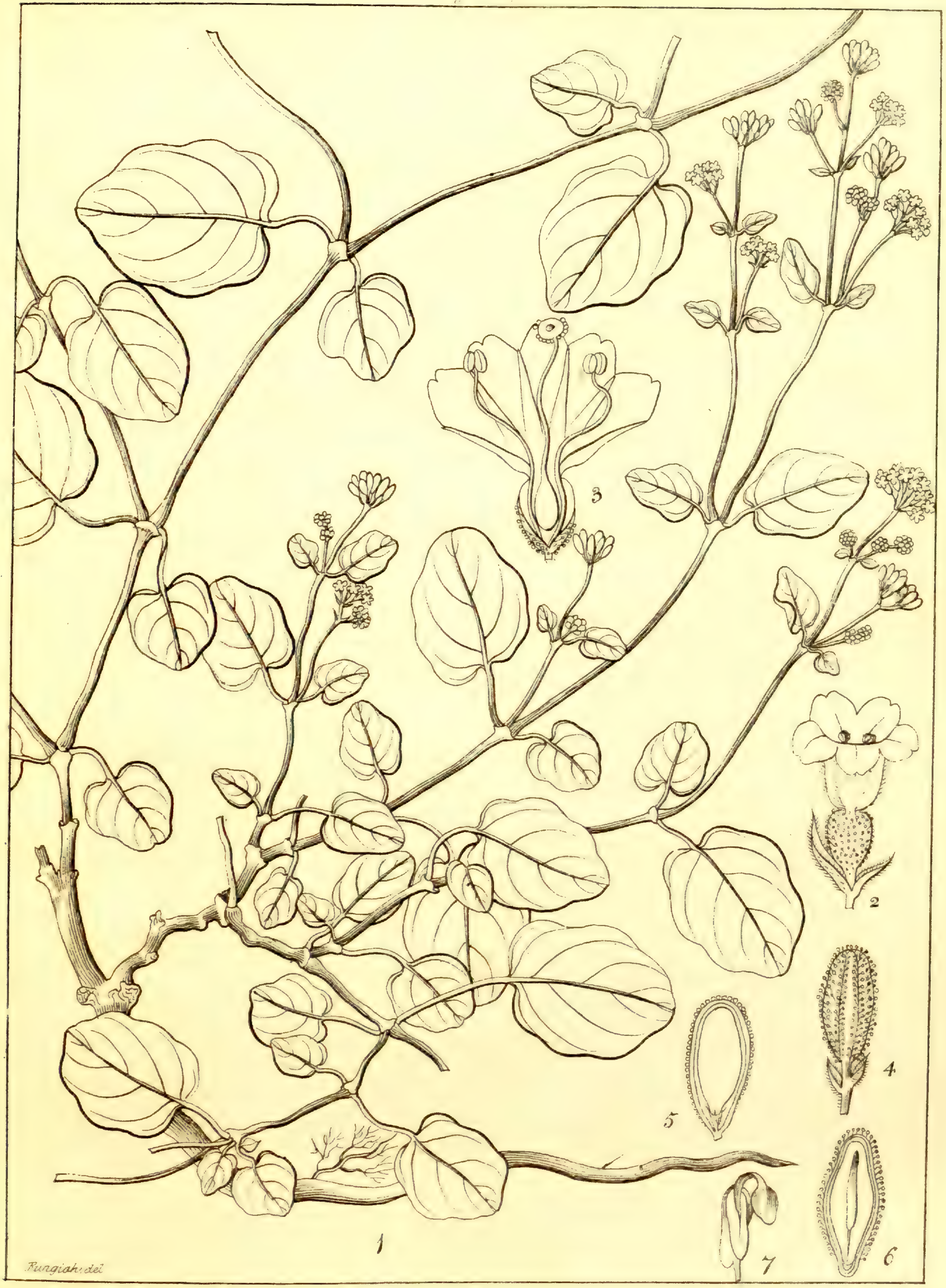
Hexacentris mysorensis (R.W.)



Thunbergia grandiflora

Rungiah del. Dumphy Lith

Stenosiphonium Russellianum (Nees



Dumphy lith

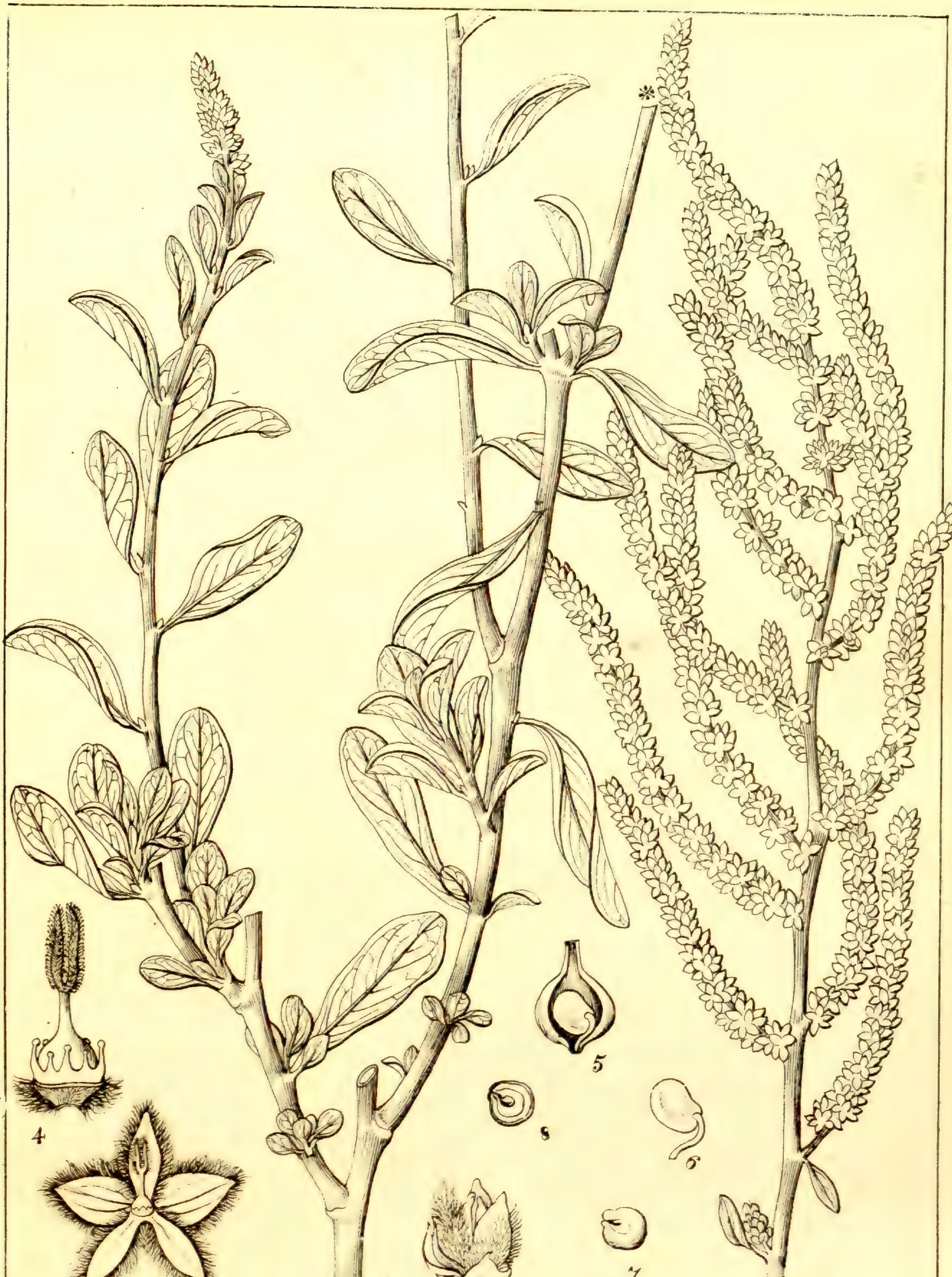
மூக்கரட்டைக்கொடி
Mookurrutta-Codie } Tam

Boerhavia procumbens, (Roxb)

Rungiah, del.

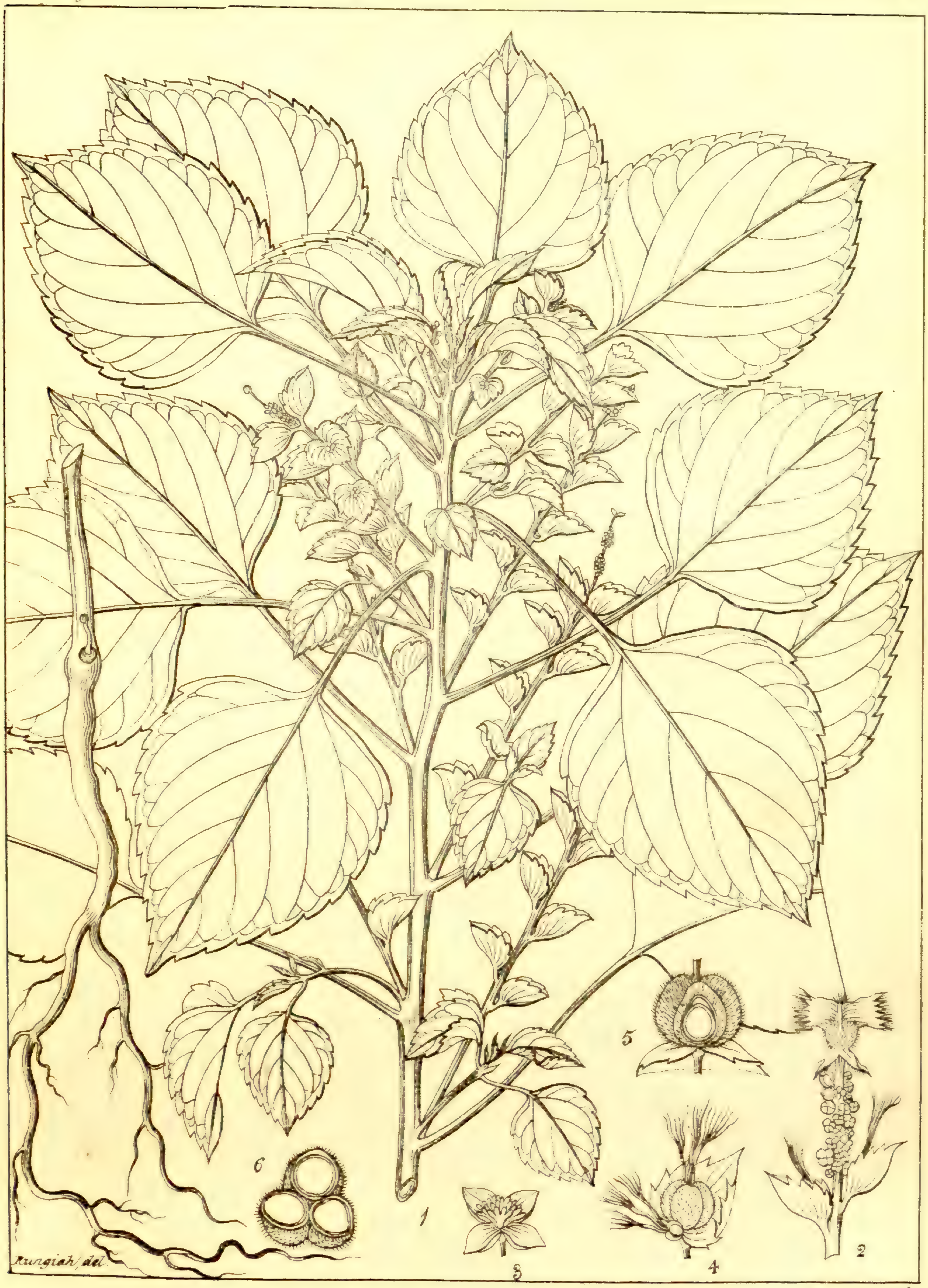
Dumphy, Lith.

Boerhavia stellata (R.W)



Aerua javanica

Poolay poovoo } Tam.



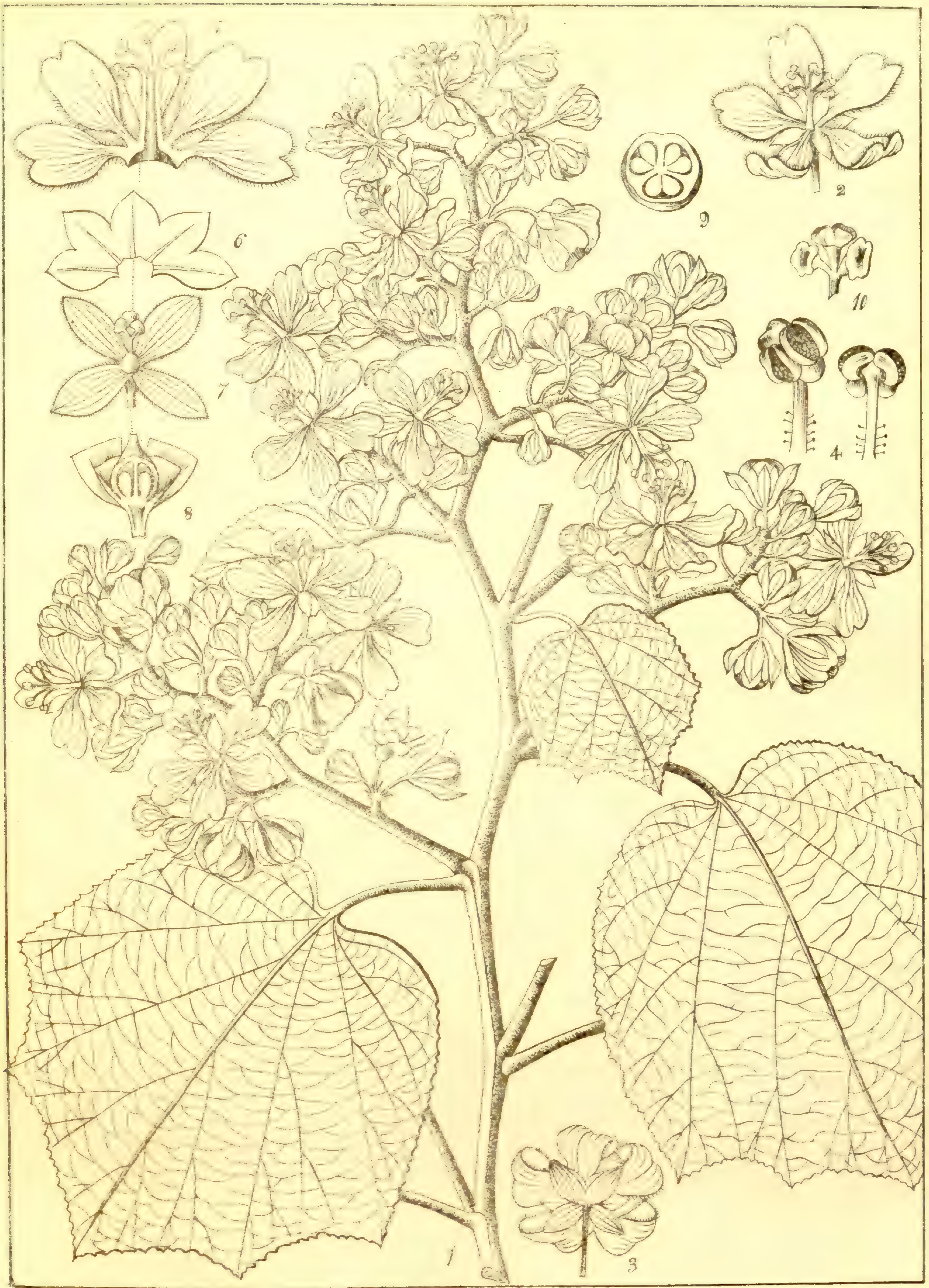
Dumphy Lith

குப்பைமேனி
Coopie-manee

Acalypha indica (Linn)

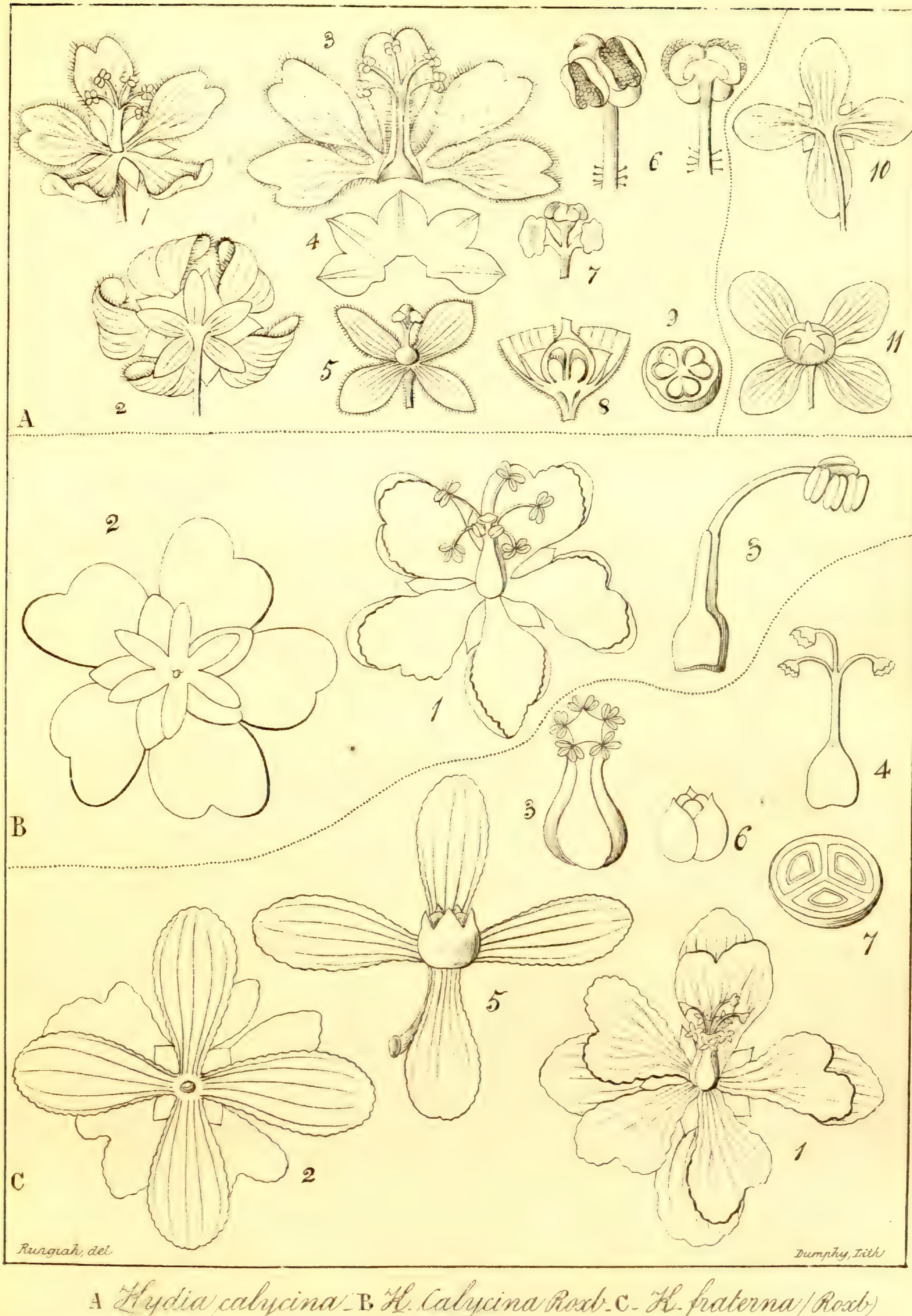
Rungiah del. Dumphy Lith

Dioscorea bulbifera (Linn)

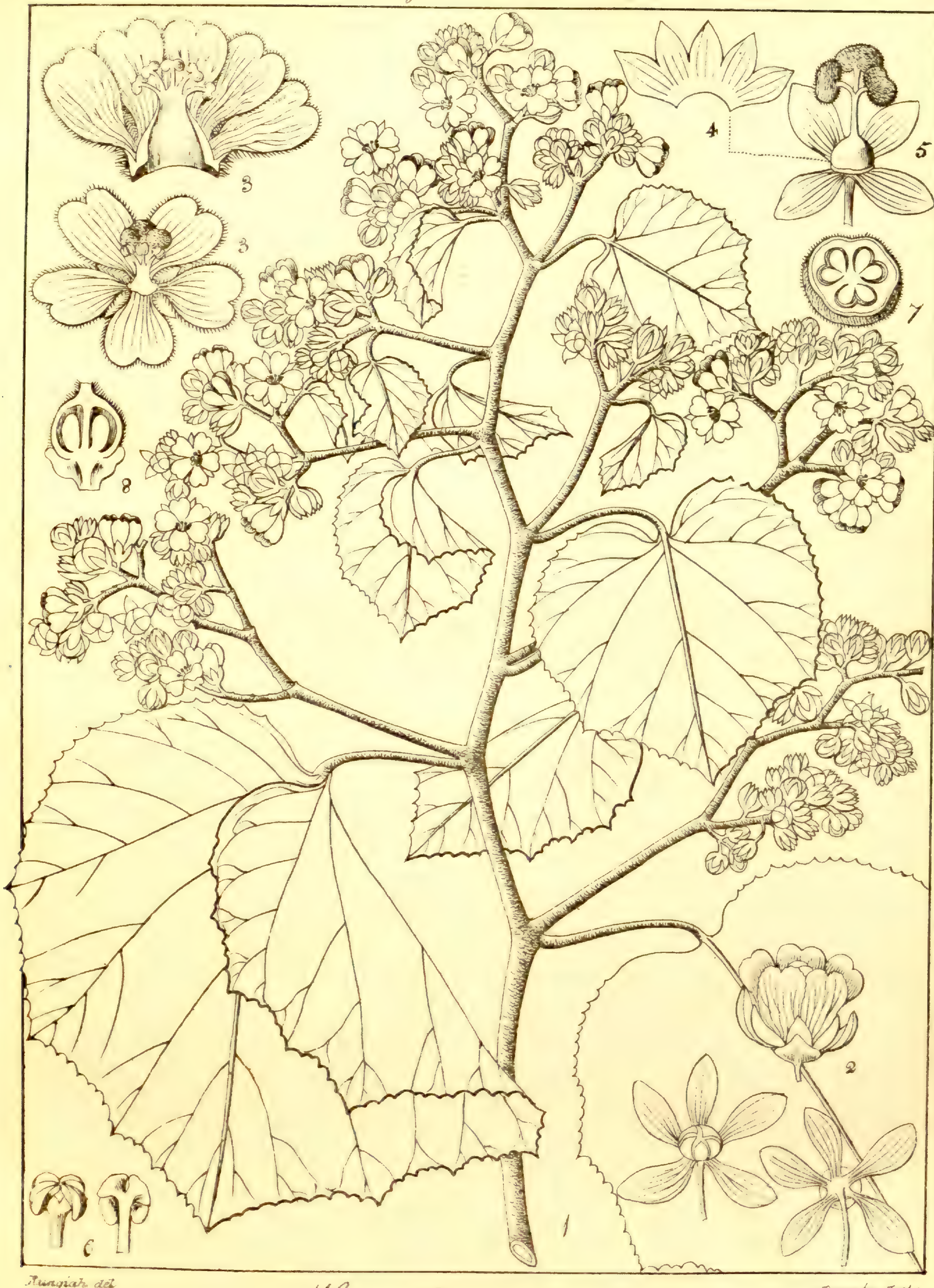


Rungiah, del. Dumphy lith

Kydia calycina &?
K. fraterna (Roxb)



A Hydia calycina _ B H. Calycina Roxb _ C _ H. fraterna (Roxb)



Rungiah, del. Dumphy, Lith.

Hydia Roxburghiana (R.W.)

Rungiah del. Dumphy Lith.

Microchlæna quinquelocularis (W. & A.)

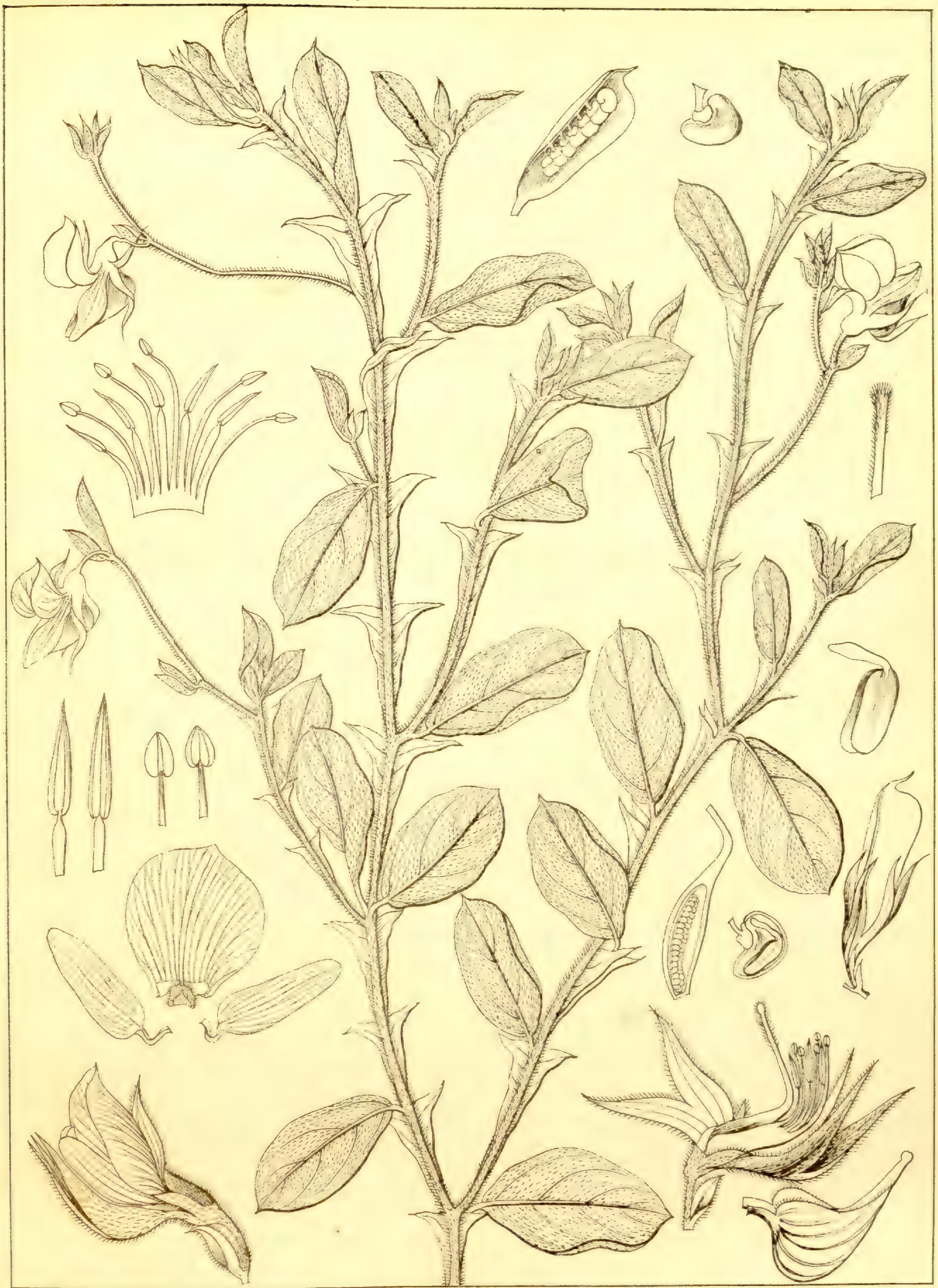
Rungiah del.

Dumphy. Lith.

Impatiens oppositifolia (Linn.)

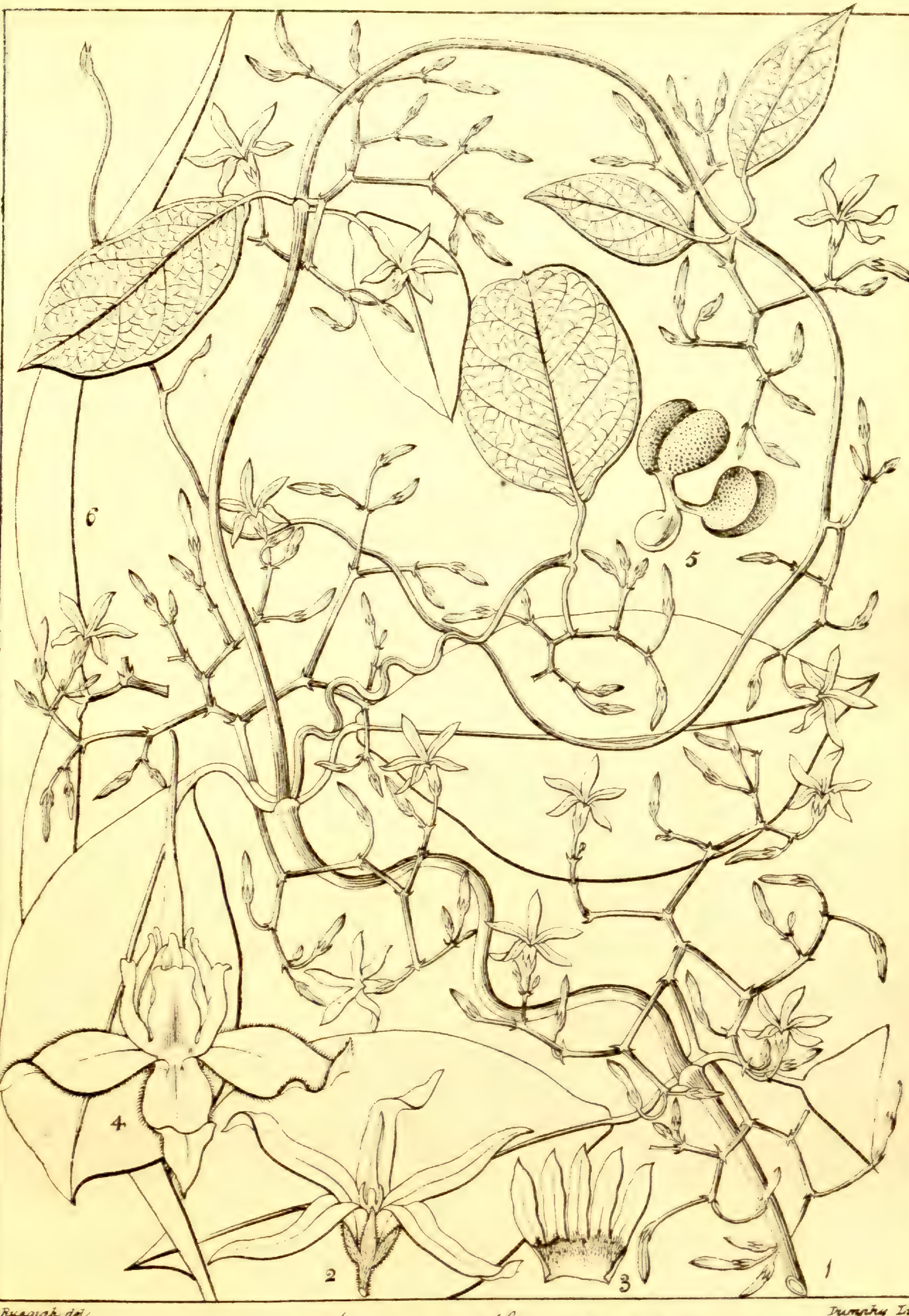
Rungiah del. Dumphy Lith.

Impatiens Kleinii.



Rungiah del. Dumphy Lith.

Crotalaria rubiginosa (Willd)

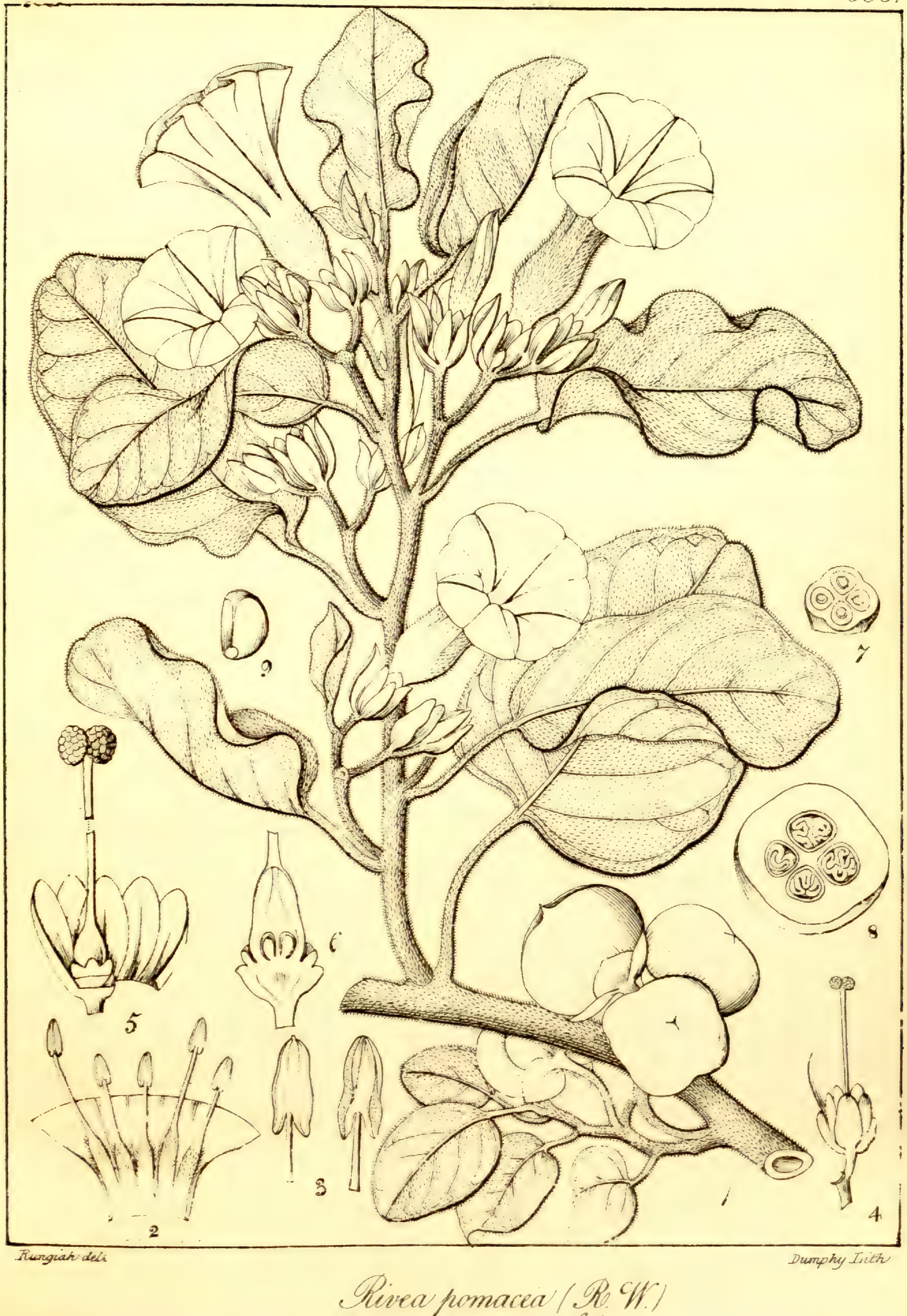


Rungiah, del. Dunphy Lith.

Toxocarpus Kleinii (W & A)

Rungiah del   Dumphy Lith.

Ipomæa rugosa (Ch.)

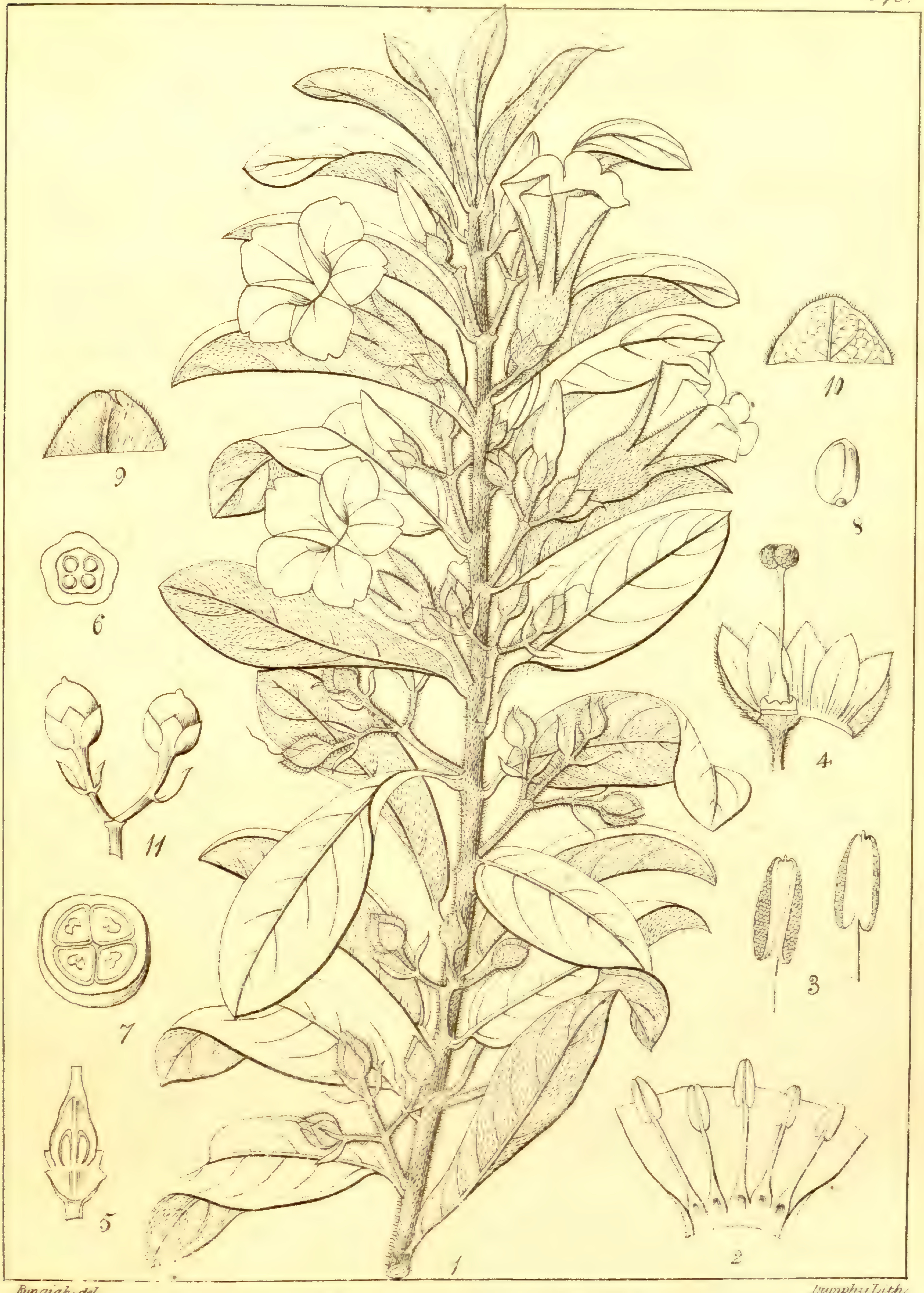


Rungiah del. Dumphy Lith.

Rivea pomacea (R. W.)
Argyreia pomacea (Ch.)

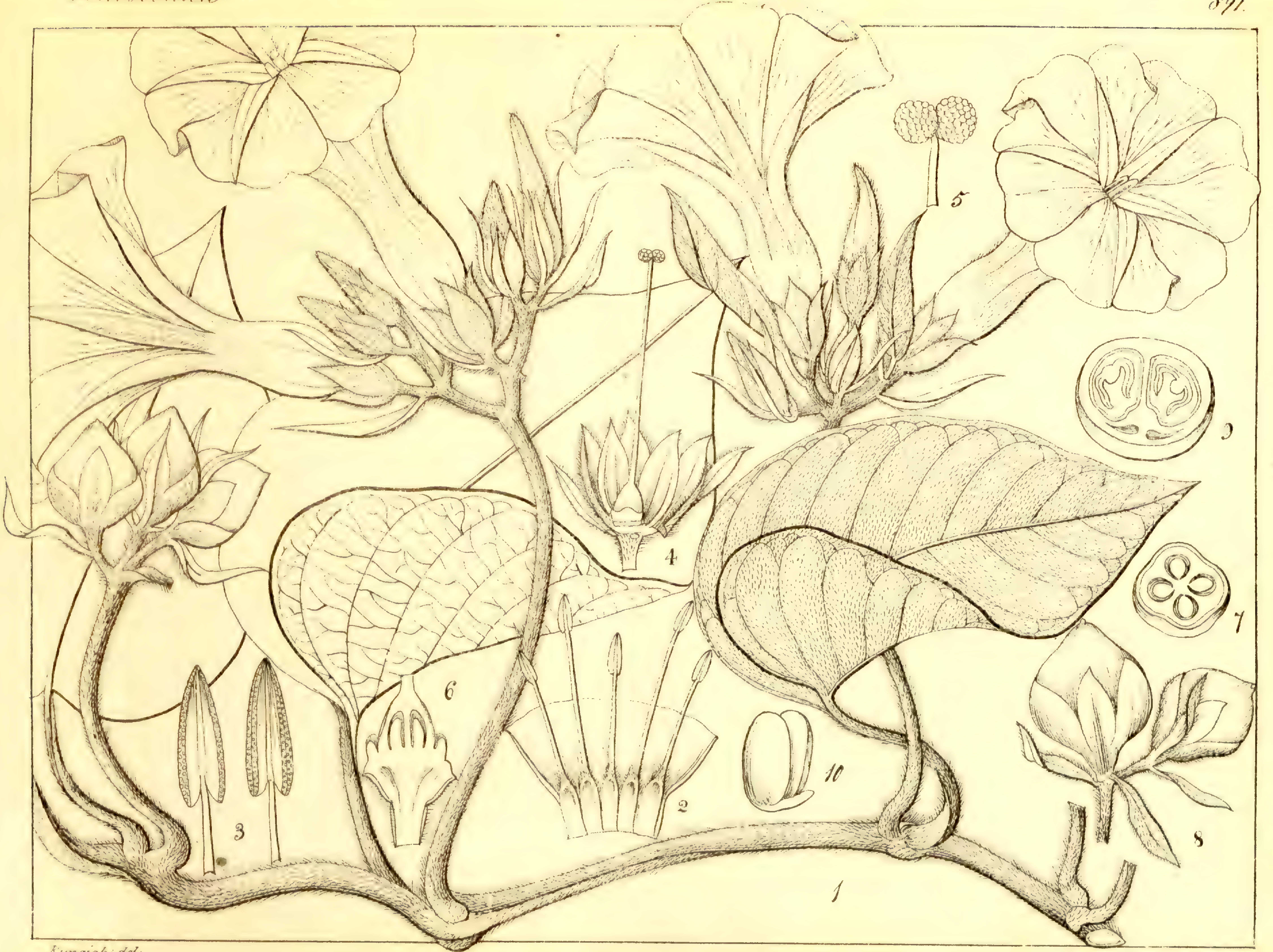
Rungiah del. Dumphy Lith.

Capparis divaricata (Lam.)



Rungiah del. Dumphy Lith.

Rivea cuneata (R. W.)
Argyreia cuneata (Choisy).



Rungiah del. Dunphy Lith.

Rivea hirsuta (R. W.)

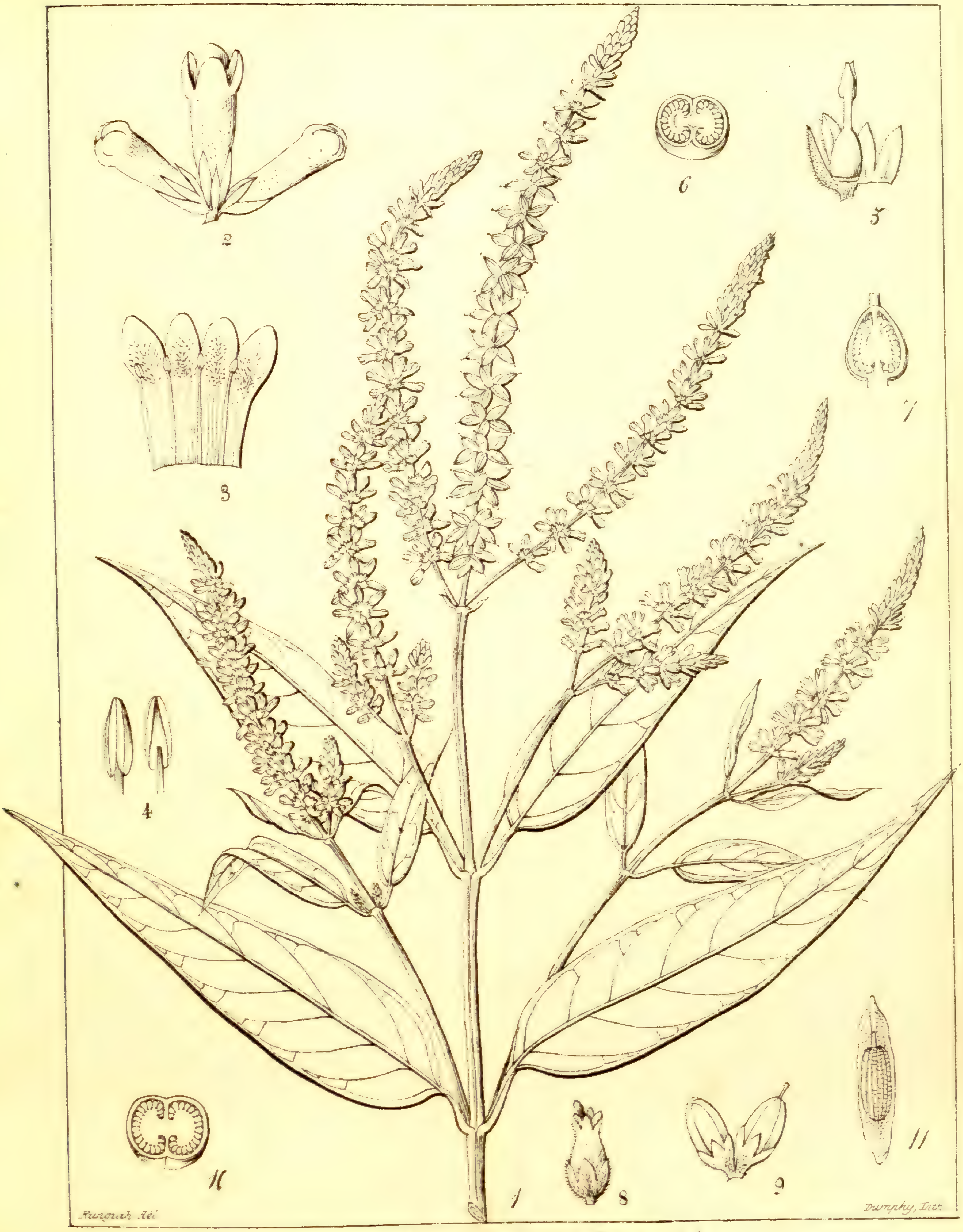
Argyreia hirsuta (Ch.)

Rungiah del. Dumphy Lith.

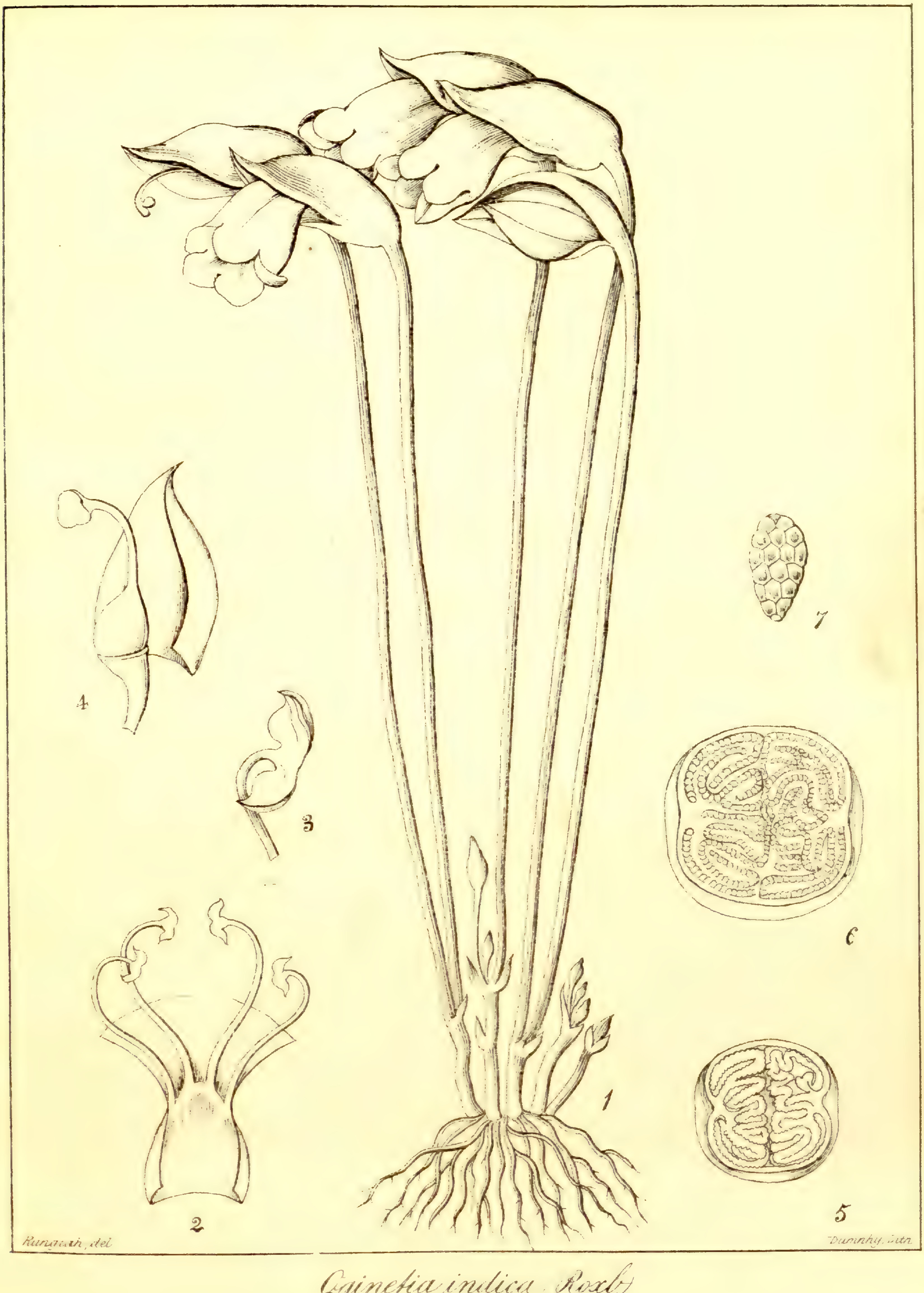
Heliotropium Zeylanicum (Lam.)

Rungiah del. Dumphy Lith.

Solanum giganteum.



Buddlea discolor (Roth)



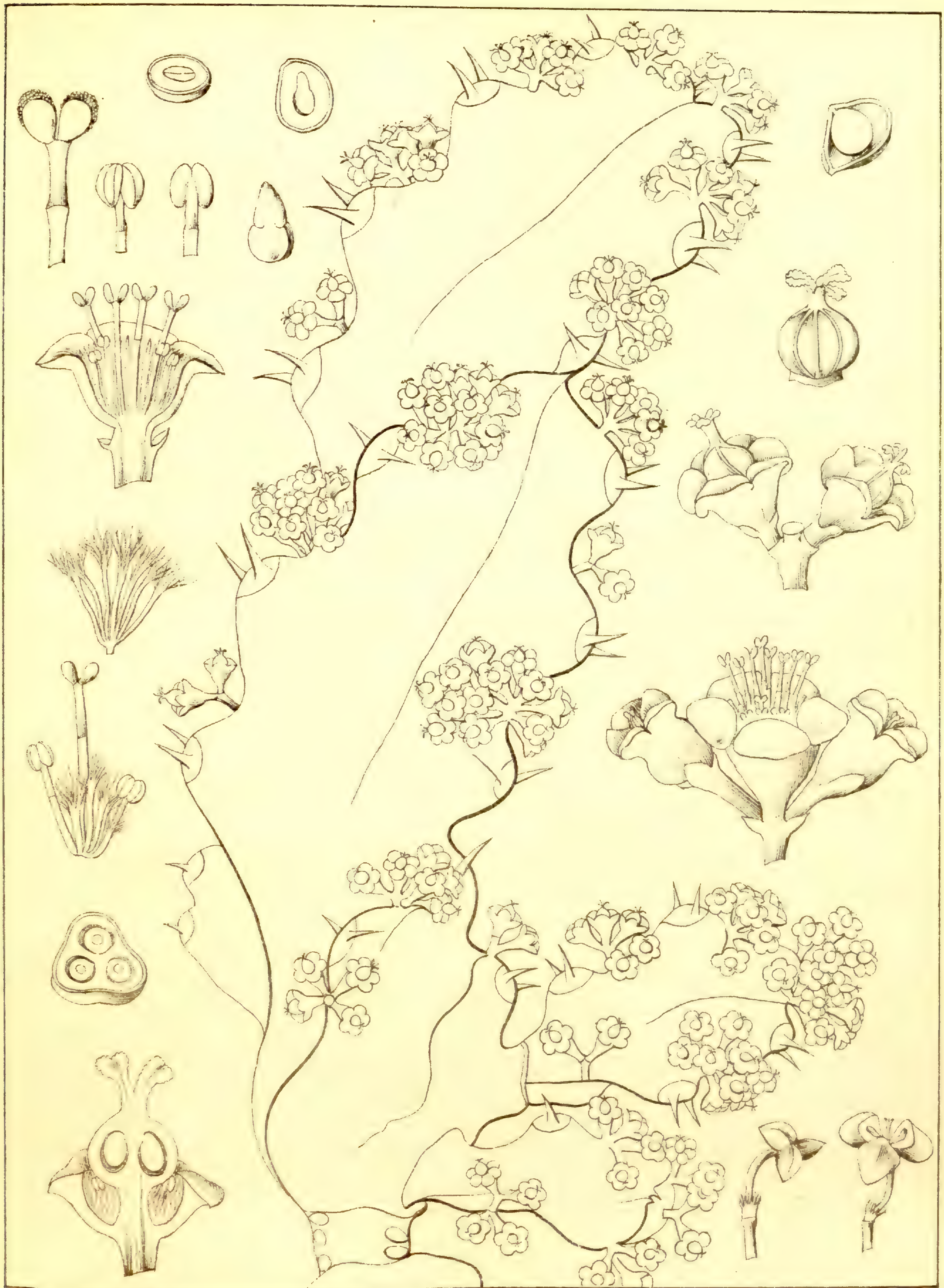
Aeginetia indica. Roxb.

Rungiah, del. Dunphy, lith.

Basella alba (Lin)

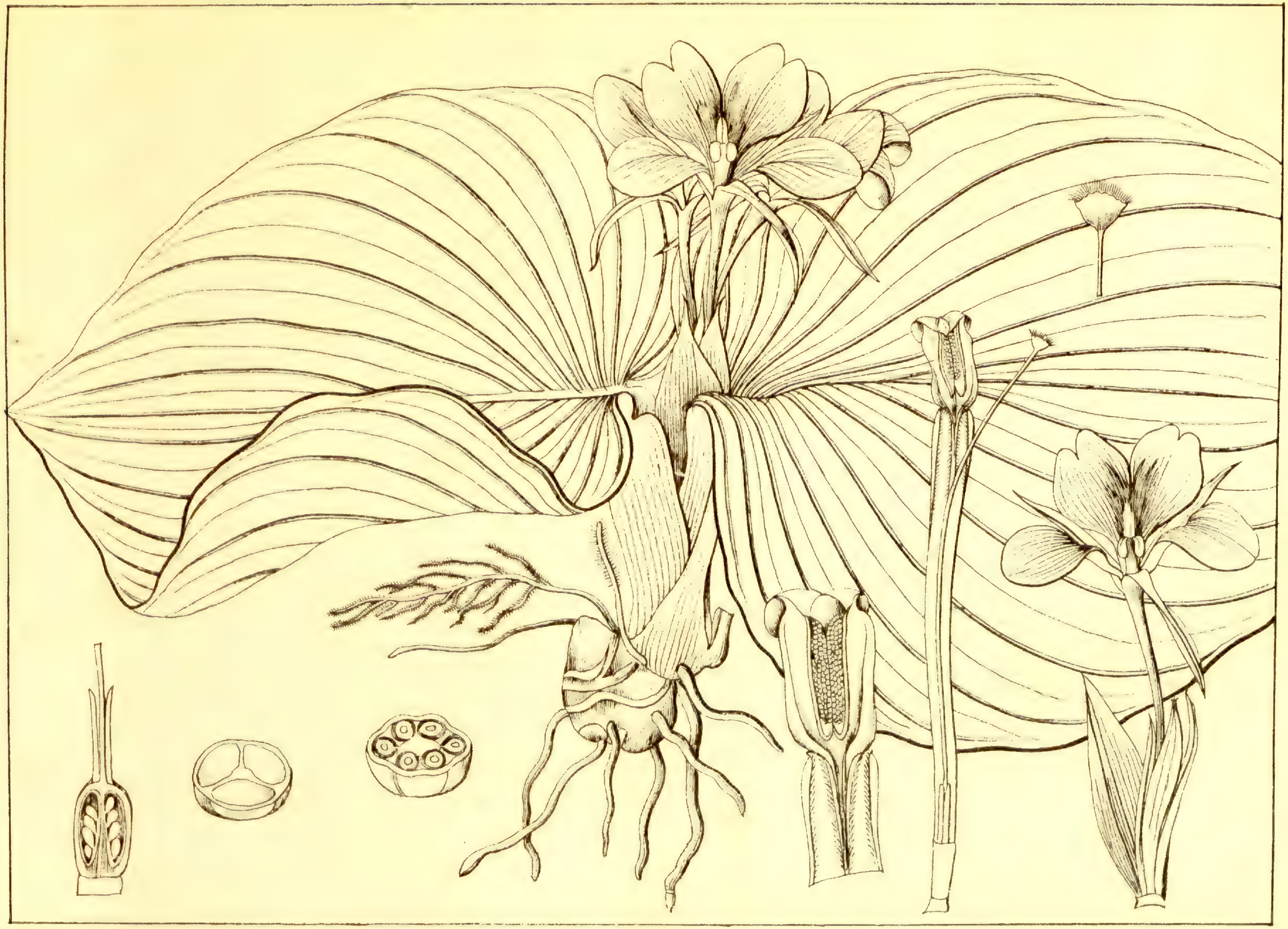
Rungiah, del. Dumphy lith

Euphorbia antiquorum (Linn)
var polygona



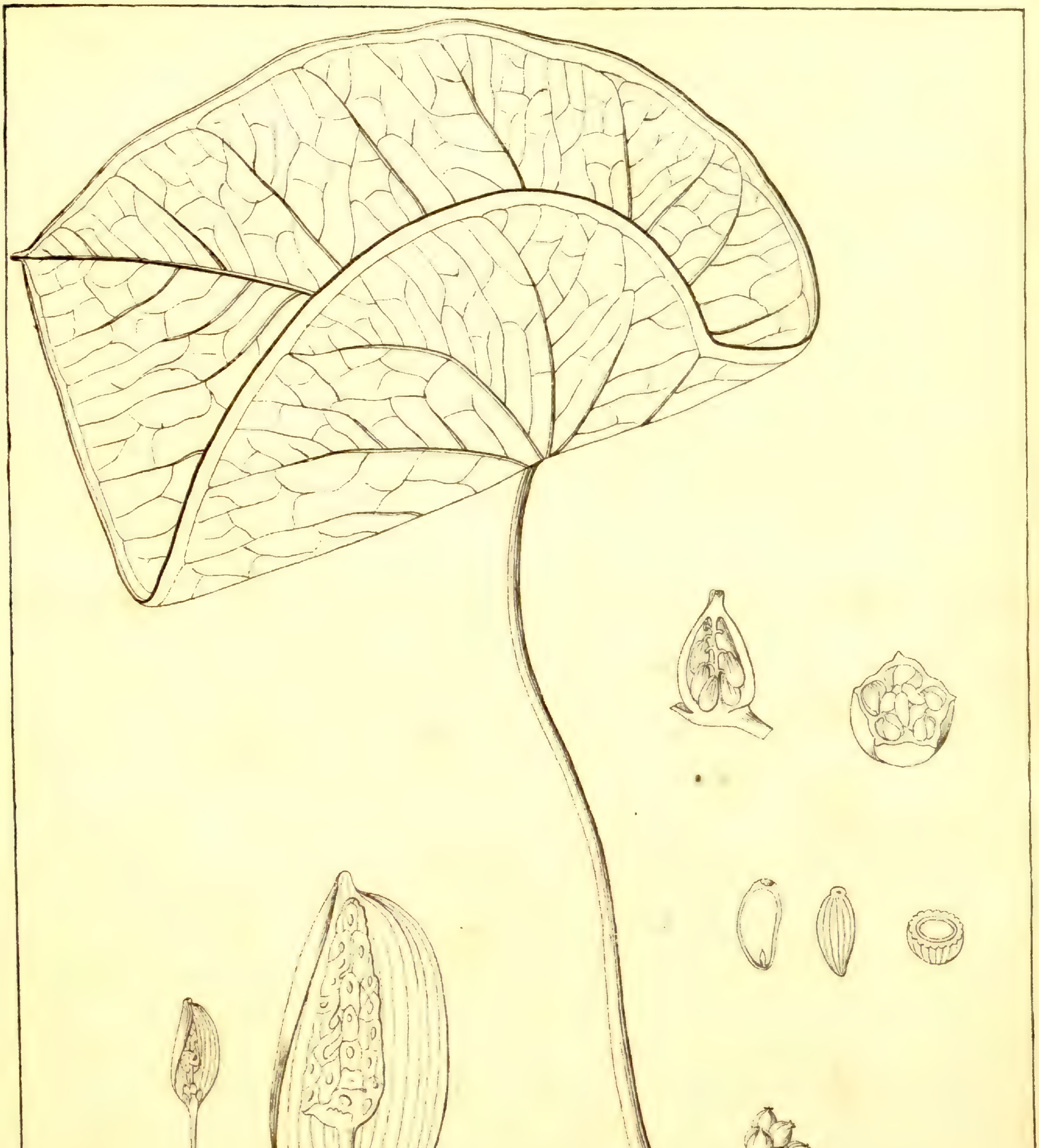
Rungiah, del. Dumphy, Lith.

Euphorbia tortilis (Rottler)



Rungiah del. Dumphy, Lith.

Kæmpferia Galanga (Lin Roxb.)



Rungiah del. Dumphy Lith.

Remusatia vivipera (Shott)

Microstylis versicolor (Linn.

Rungiah del. Dumphy Lith.

Microstylis Rheedii (Lind.)

Rungiah del. Dumphy Lith.

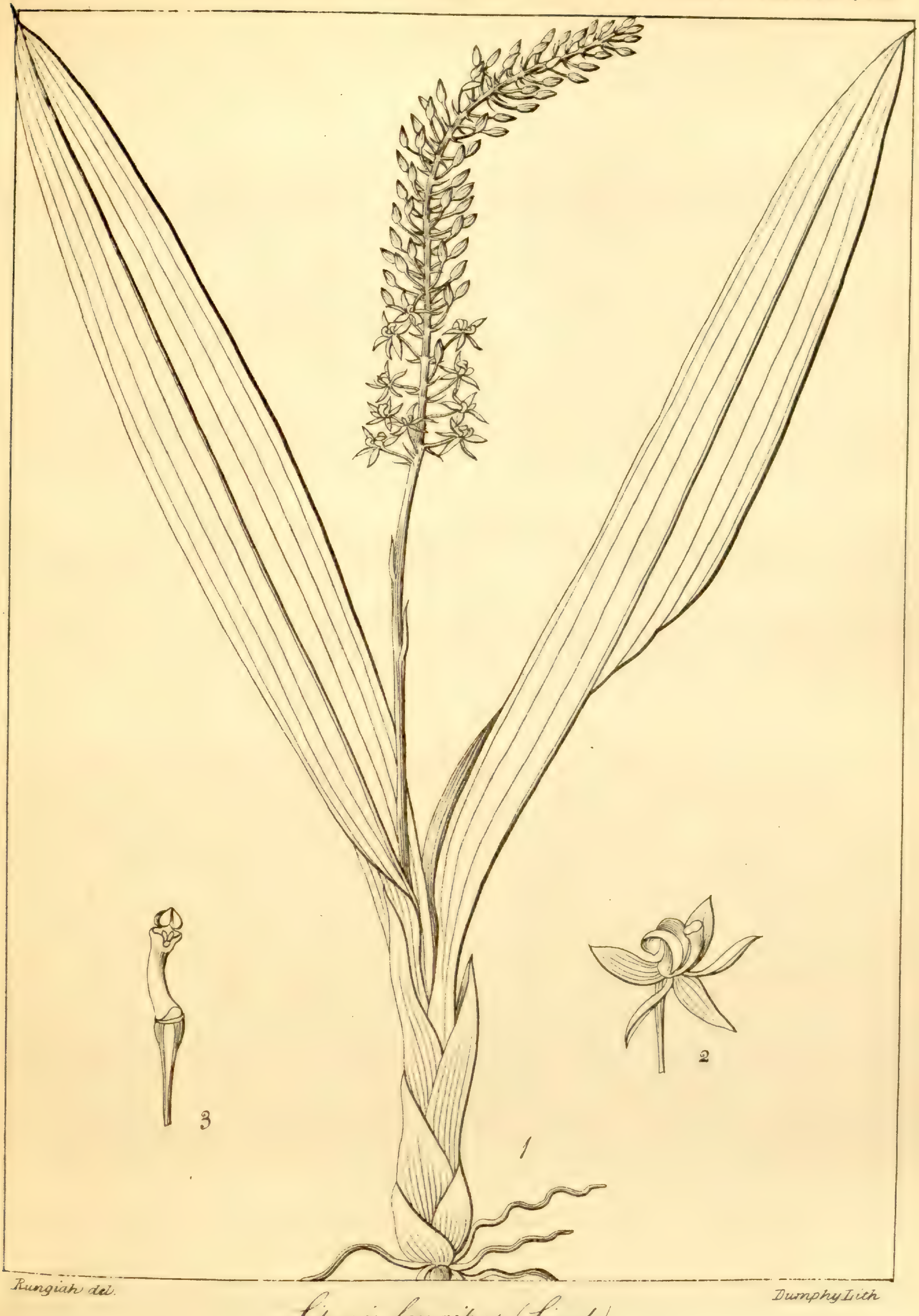
Liparis olevaca (Lind.)

Rungiah del. Dunphy Lith.

Liparis atropurpurea (Lind)

Rungiah del Dumphy Lith.

Liparis Walkeriæ (Graham)



Rungiah del. Dumphy Lith

Liparis longipes (Lind.)

Rungiah del. Dumphy Lith.

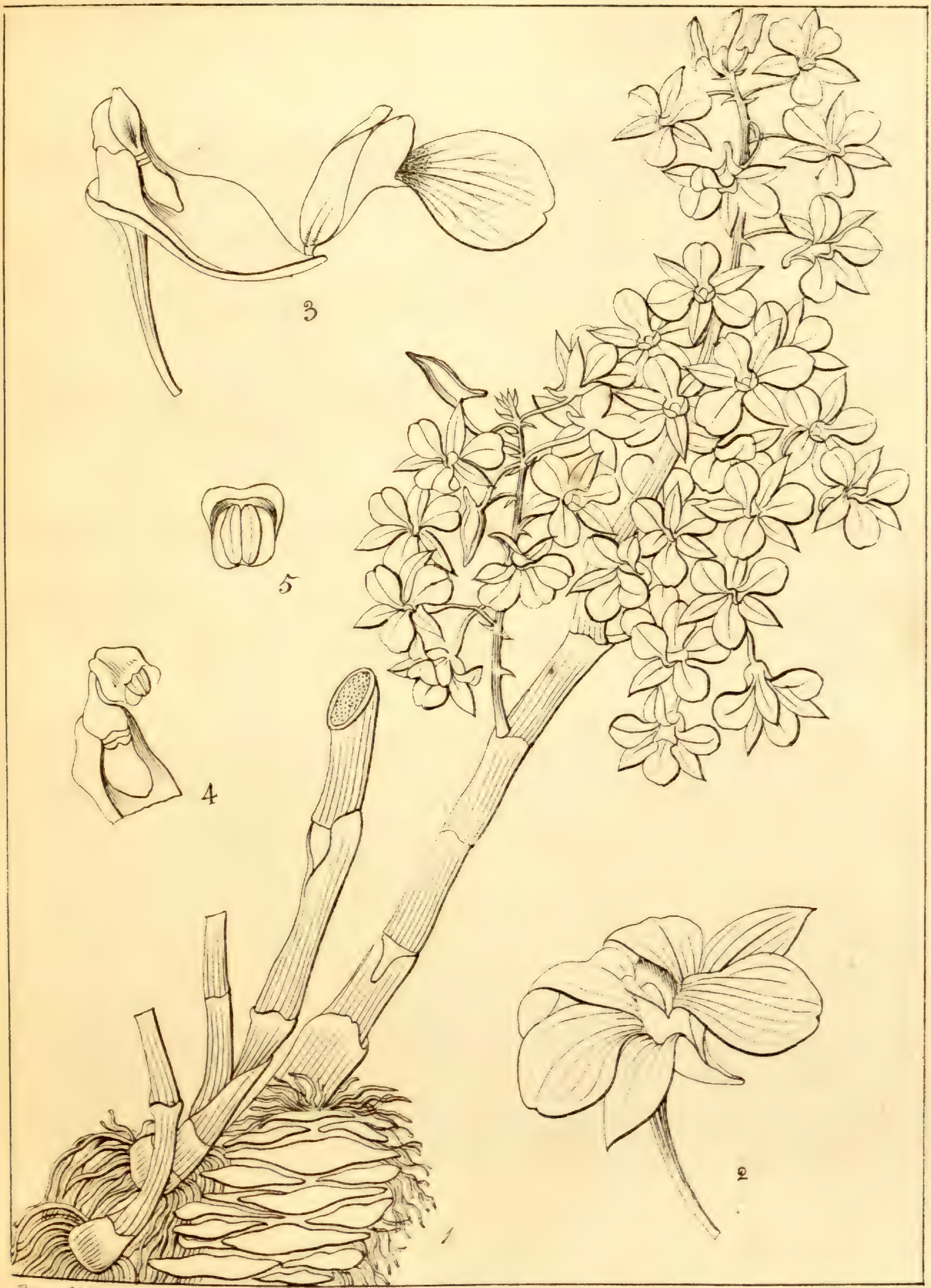
Pholidota imbricata (Lind.)

[illegible] del. Dunphy Lith.

Dendrobium Pierardi (Roxb.)

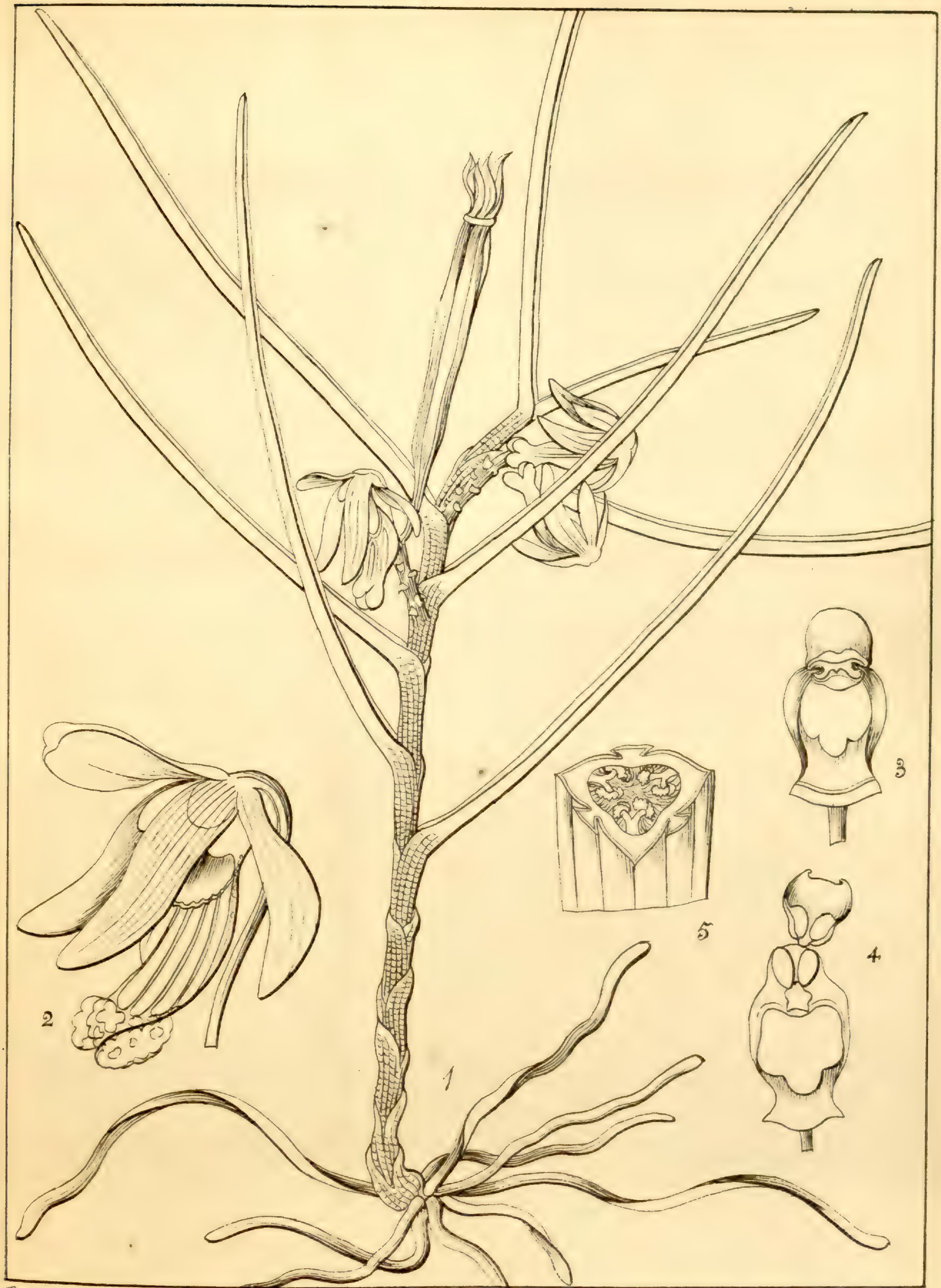
Rungiah del. Dumphy Lith.

Dendrobium Heynearum (Lind.)



Rungiah del. Dumphy, Lith.

Dendrobium barbatulum (Lind)



Rungiah, del. Dumphy, Lith.

Cymbidium triste (Willd.)

Geodorum dilatatum (R. Br.)

Eulophia virens (R. Br.)

Ania latifolia (Lind)

Vanda spathulata (Spreng.)

Vanda Roxburghii (R. Br.)

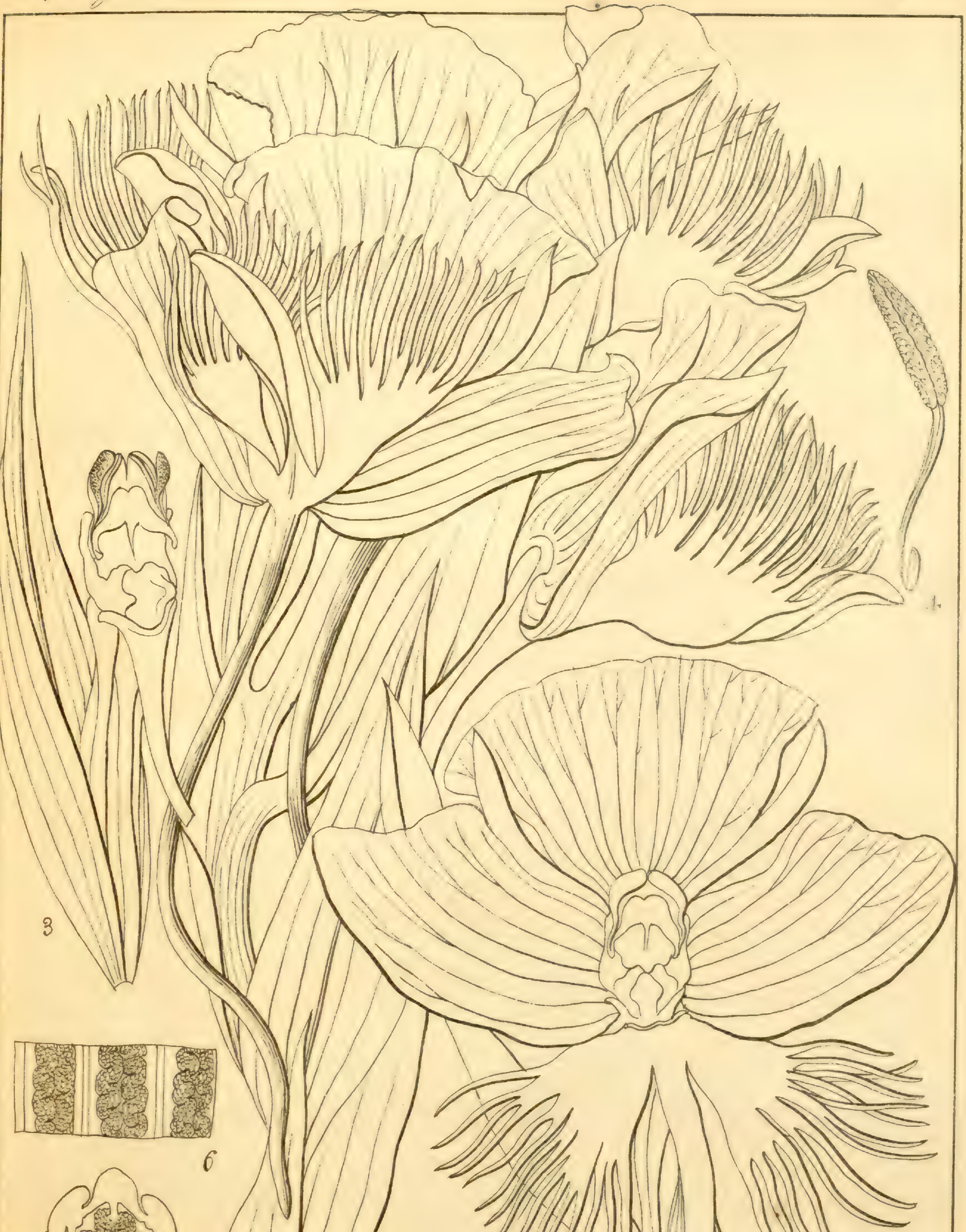
Rungiah del. Dunphy Lith.

Saccolobium Wightianum (Lind.)

Rungiah del. Dumphy Lith.

Calanthe emarginata (Lind.)

Platanthera lutea (R. W.)



Rungiah del. Dumphy Lith.

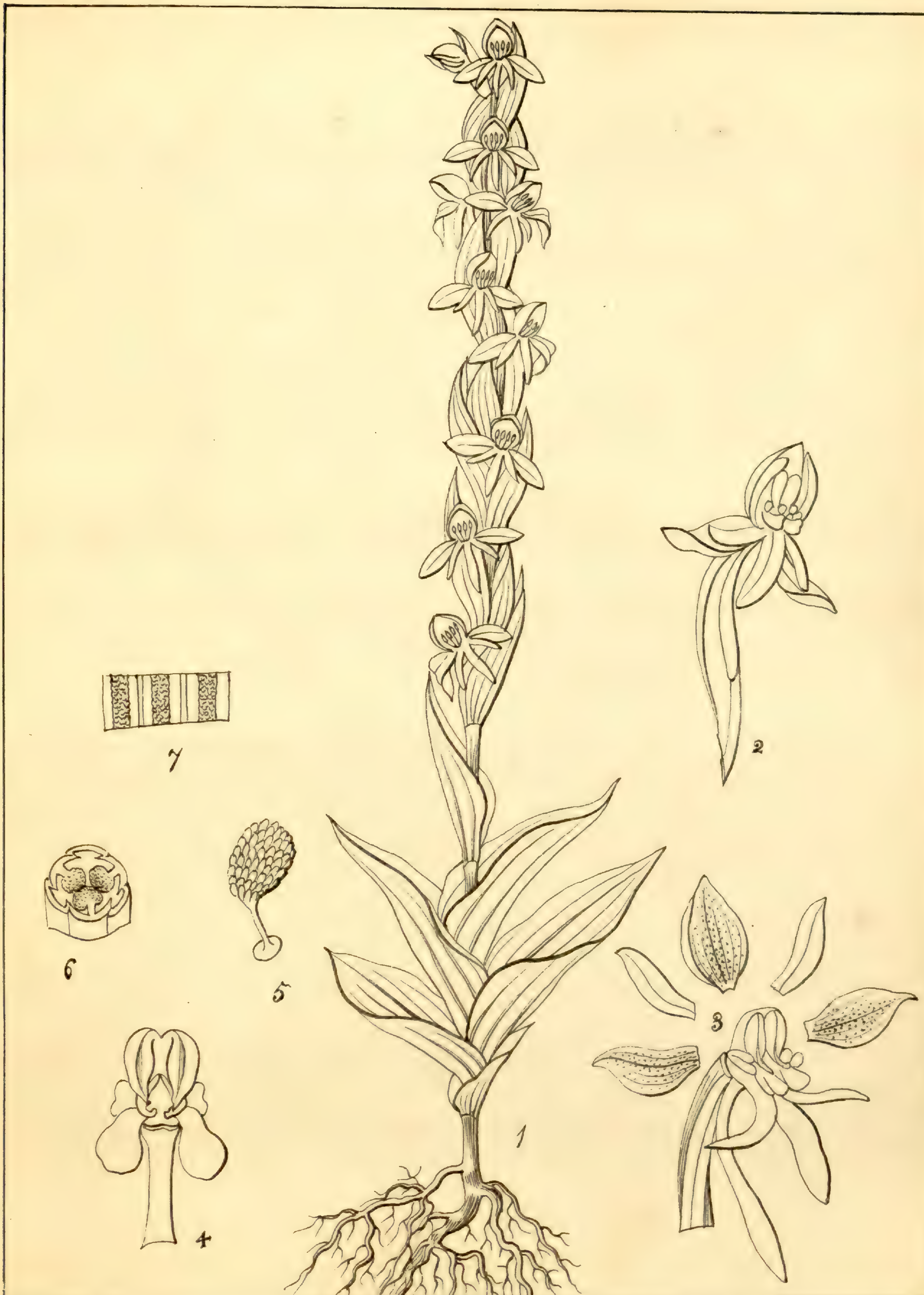
Plantanthera Susannæ (Lind.)

J. S. Dumphy Lith.

Peristylus plantaginea

Dunphy, Lith.

Habenaria Lindleyana, (R.W.)



Rungiah del. Dumphy Lith.

Habenaria Heyneana (Lind.)

Rungiah del. Dumphy Lith.

Habenaria rariflora (A. Rich.)

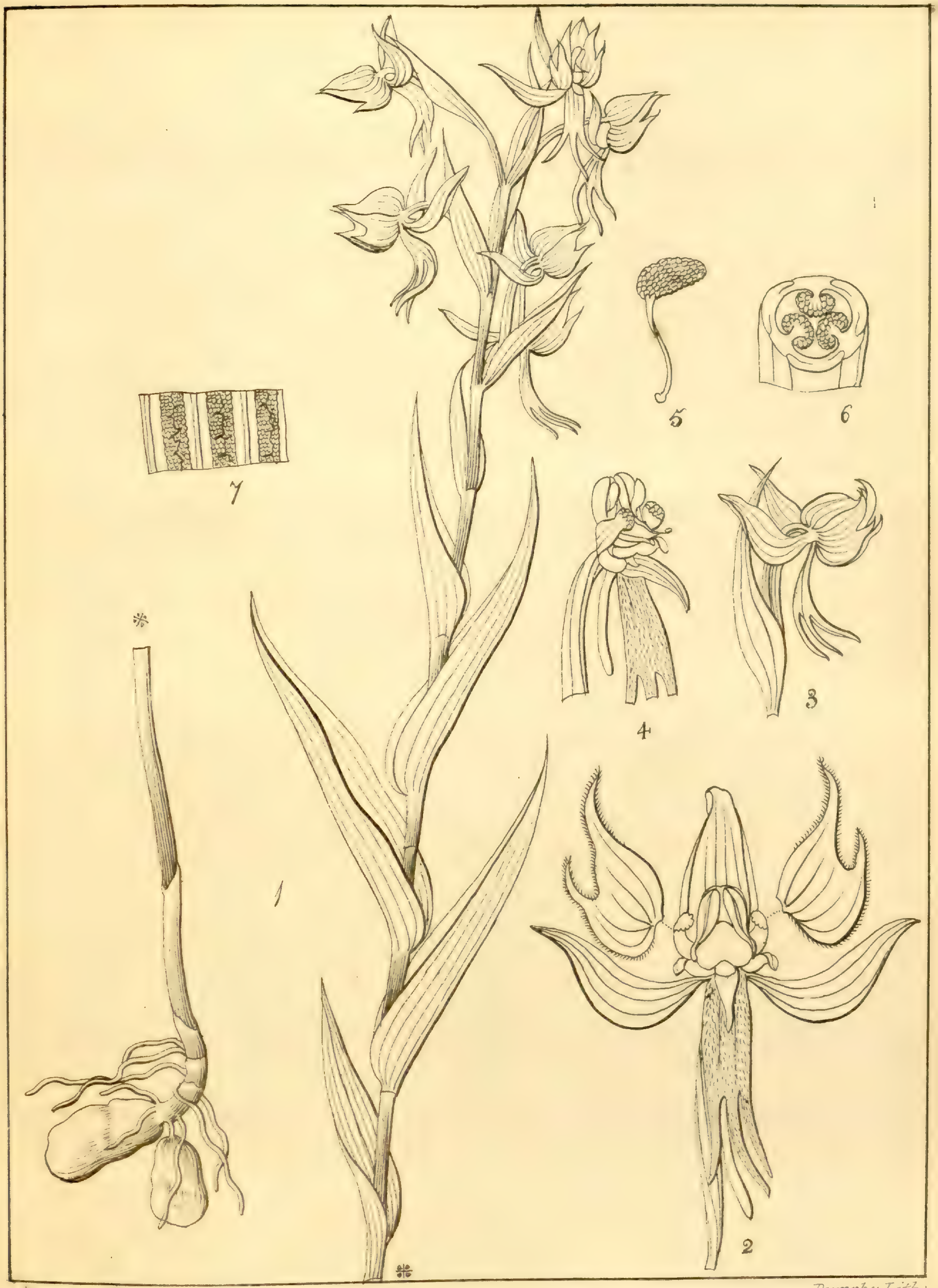
Habenaria longicalcarata (A. Rich)

Rungiah. del. Dumphy Lith.

Habenaria crinifera (Lind)

Dunphy Lith.

Habenaria montana. (A. Rich.)



Dumphy Lith.

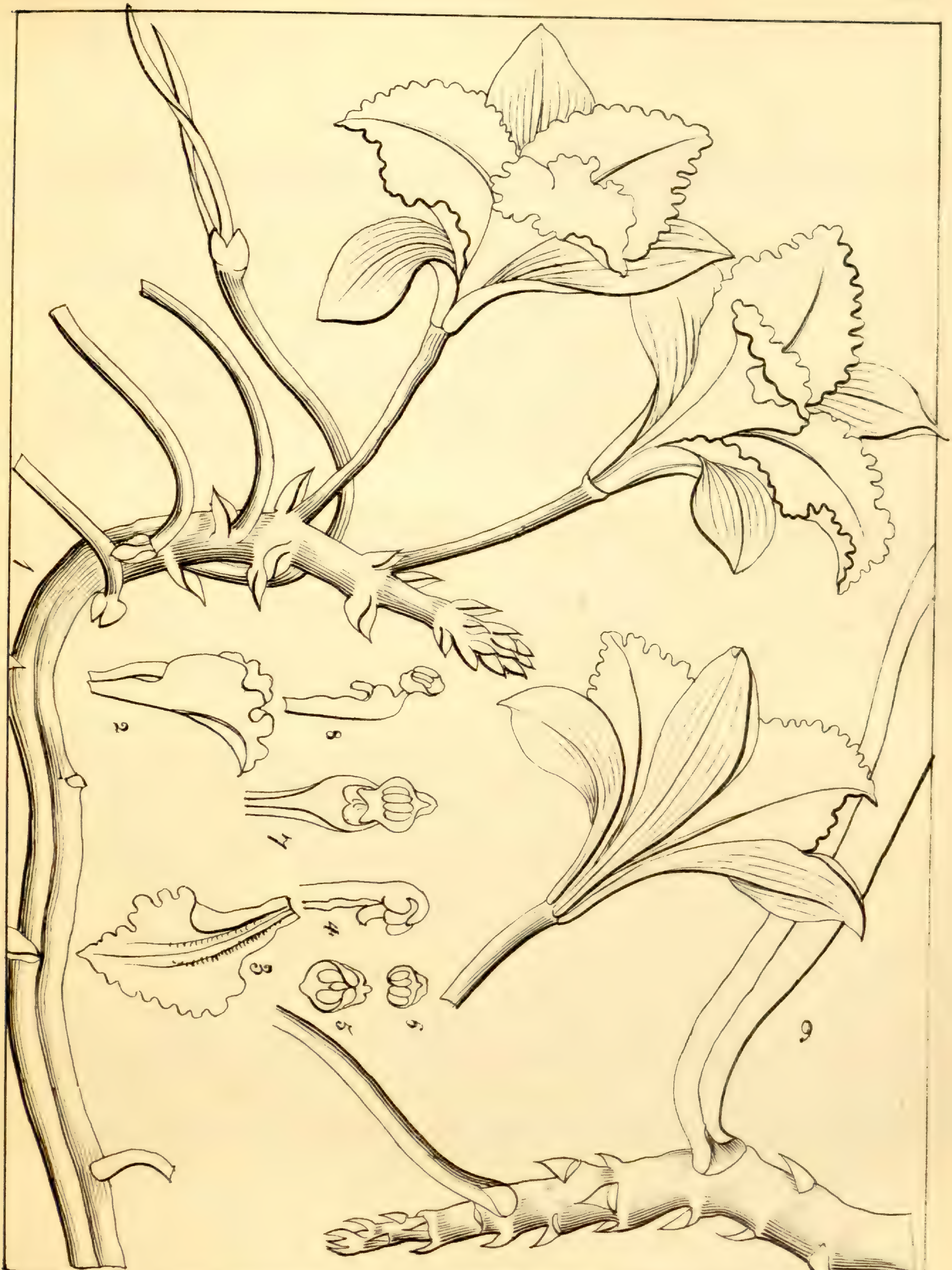
Ate virens (Lind.)

Satyrium nepalense

Parsonah del. Dumphy, Lith.

Disperis tripetaloidea

Vanilla aphylla (Blume Lind.)



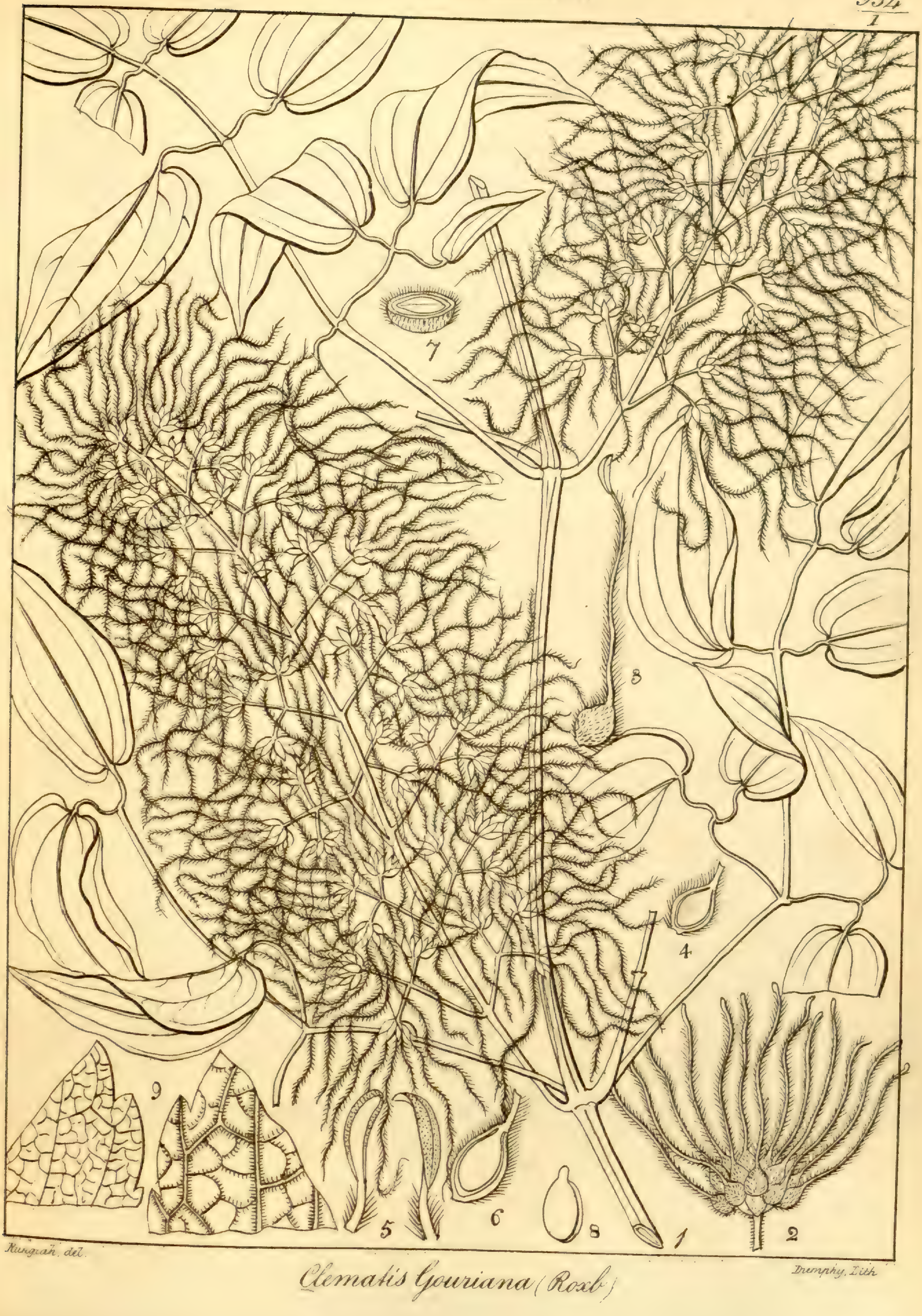
Mrs Col. Walker, del

Dumphy lith.

Vanilla Walkeriæ (R.W.)

Kungeah, del. Dumphy, Lith.

Clematis Gouriana (Roxb)



Rungiah. del. Dumphy. Lith.

Clematis Gouriana (Roxb.)

Rungiah del. Dumphy Lith

Clematis Wightiana (Wall)

Rungiah, del.

Anemone Wightiana (Wall)

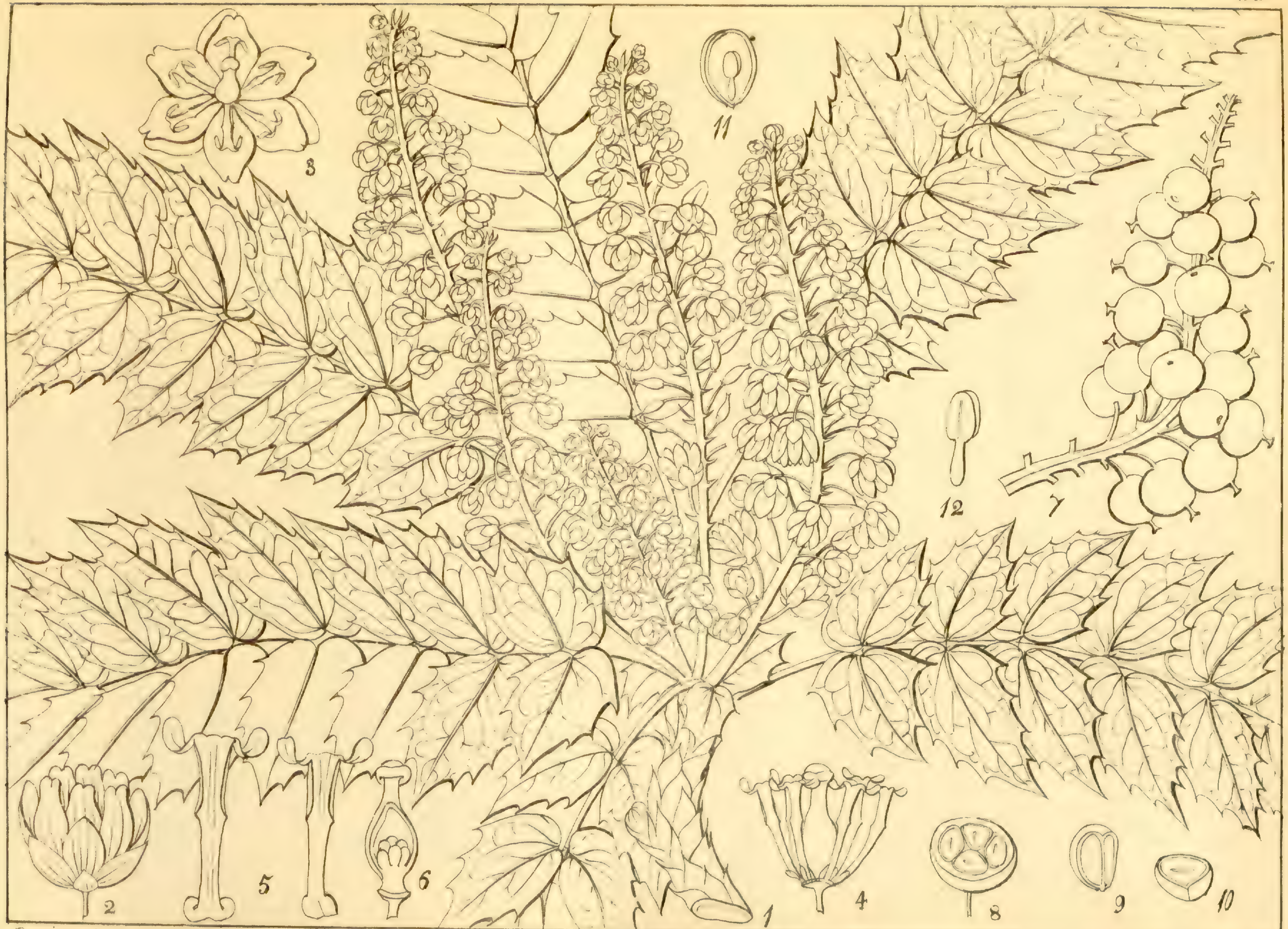
Kungiah, del. Dumphy, lith.

Ranunculus Wallichianus (W & A)

Rungiah del. Dumphy Lith.

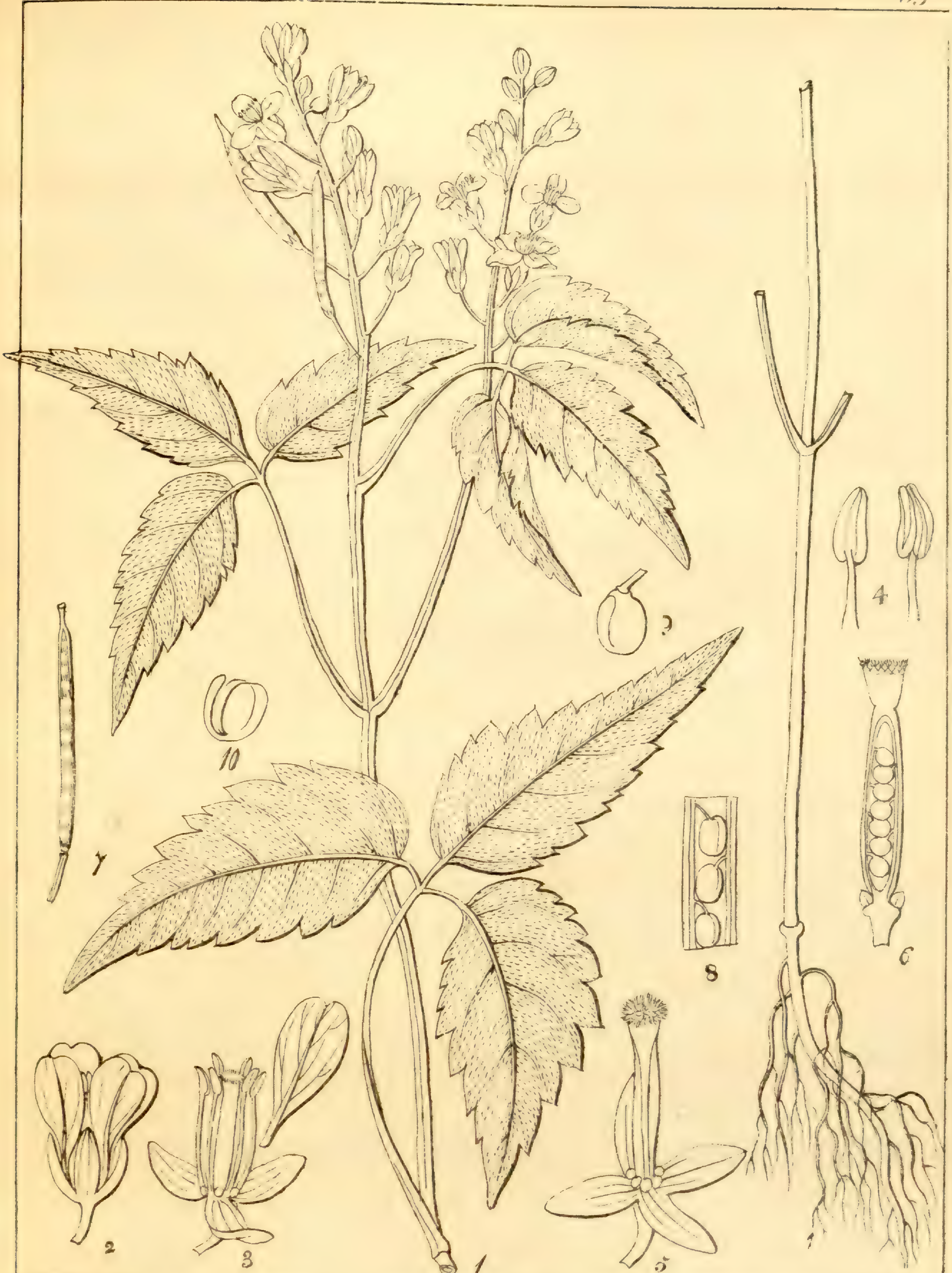
Michelia Nilagirica (Zenker.)

Rungiah, del. *Clypea hernandifolia (W & A)* Dumphy, Lith.



Rungiah, del.

Berberis Leschenaultii (D.C.)



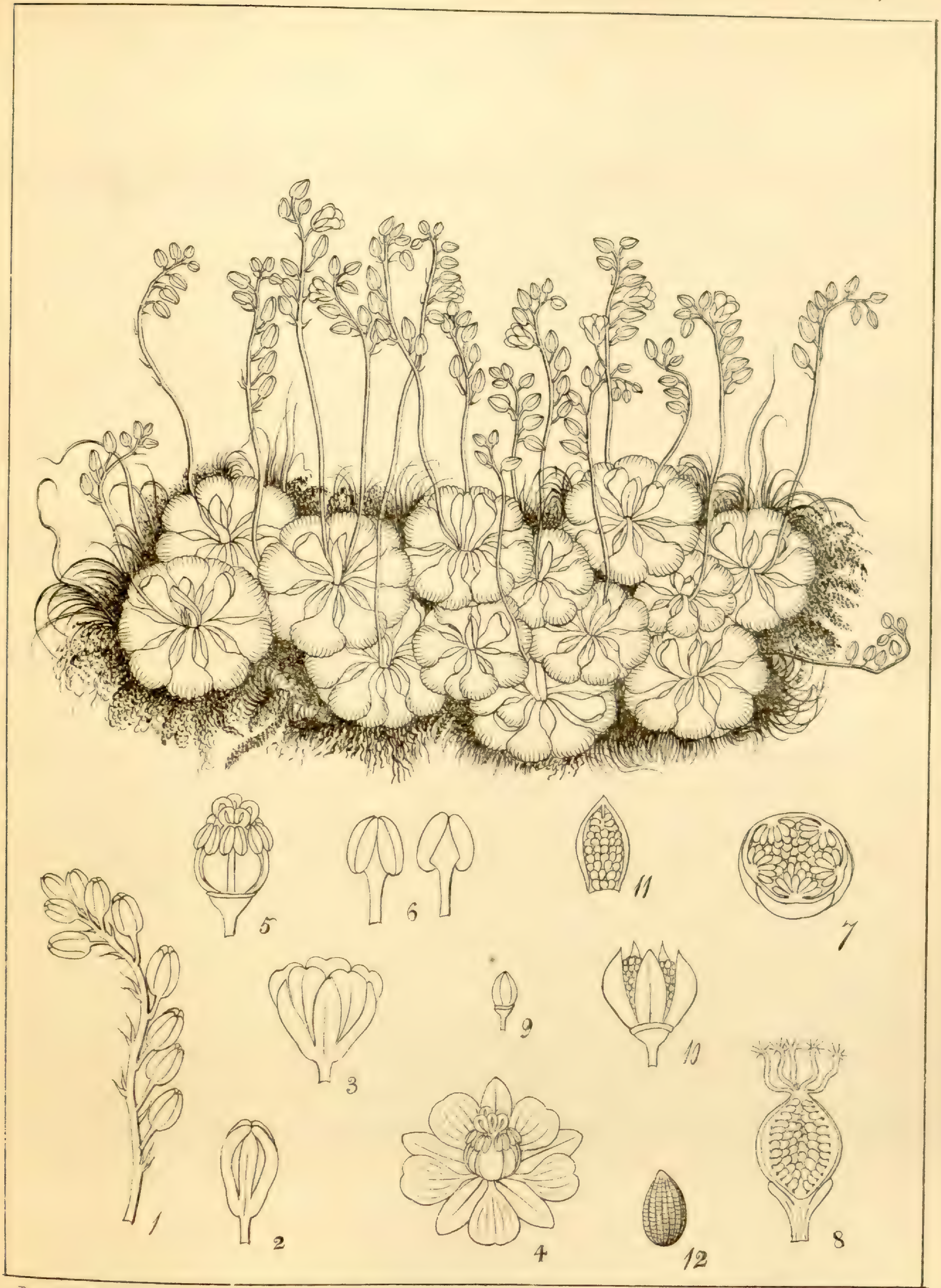
Cardamine Borbonica

Hydnocarpus alpinus, (R.W.)

Dumphy Lith.

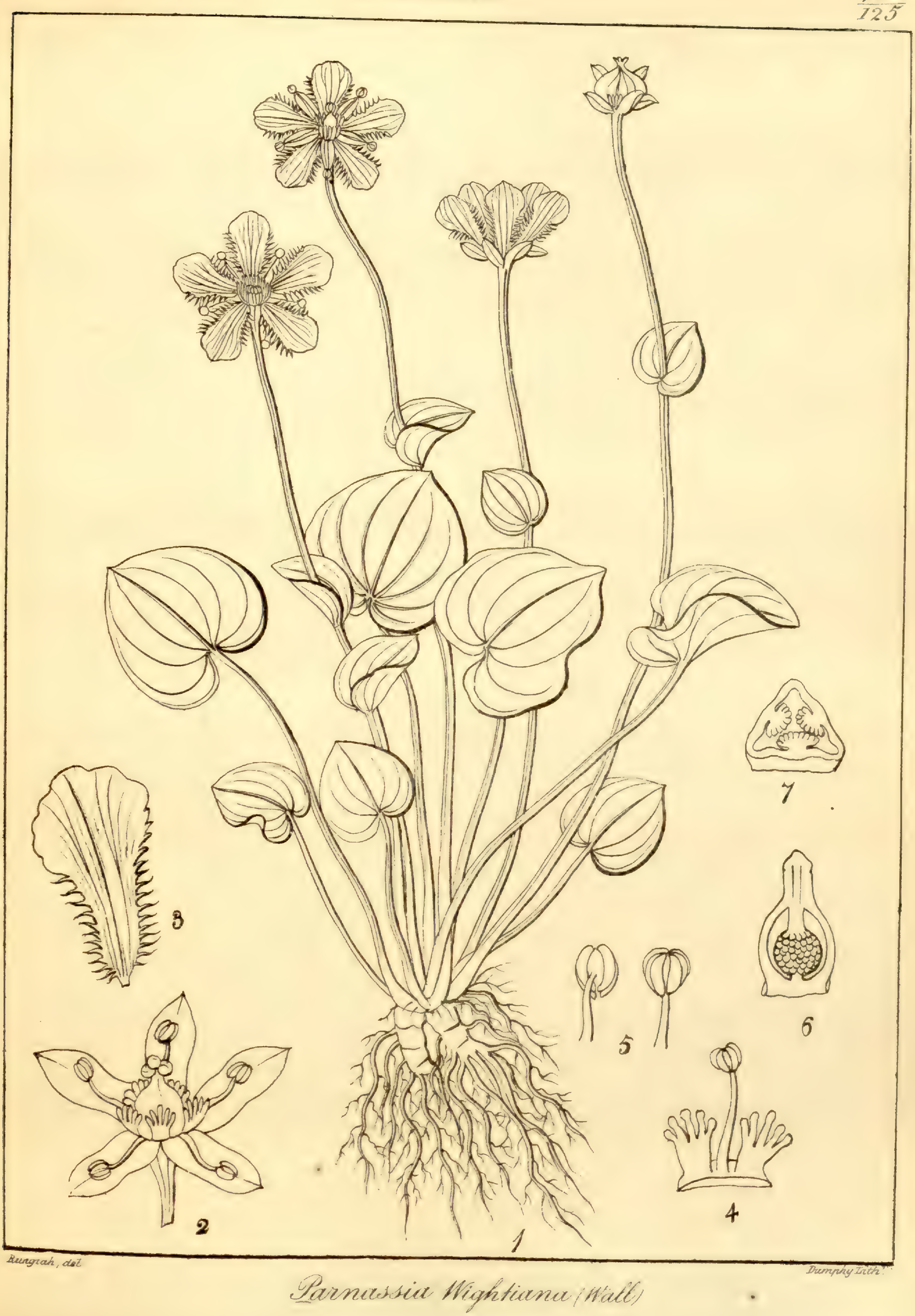
Rungiah del. Dunphy, lith.

Viola Wightiana (Wall.)



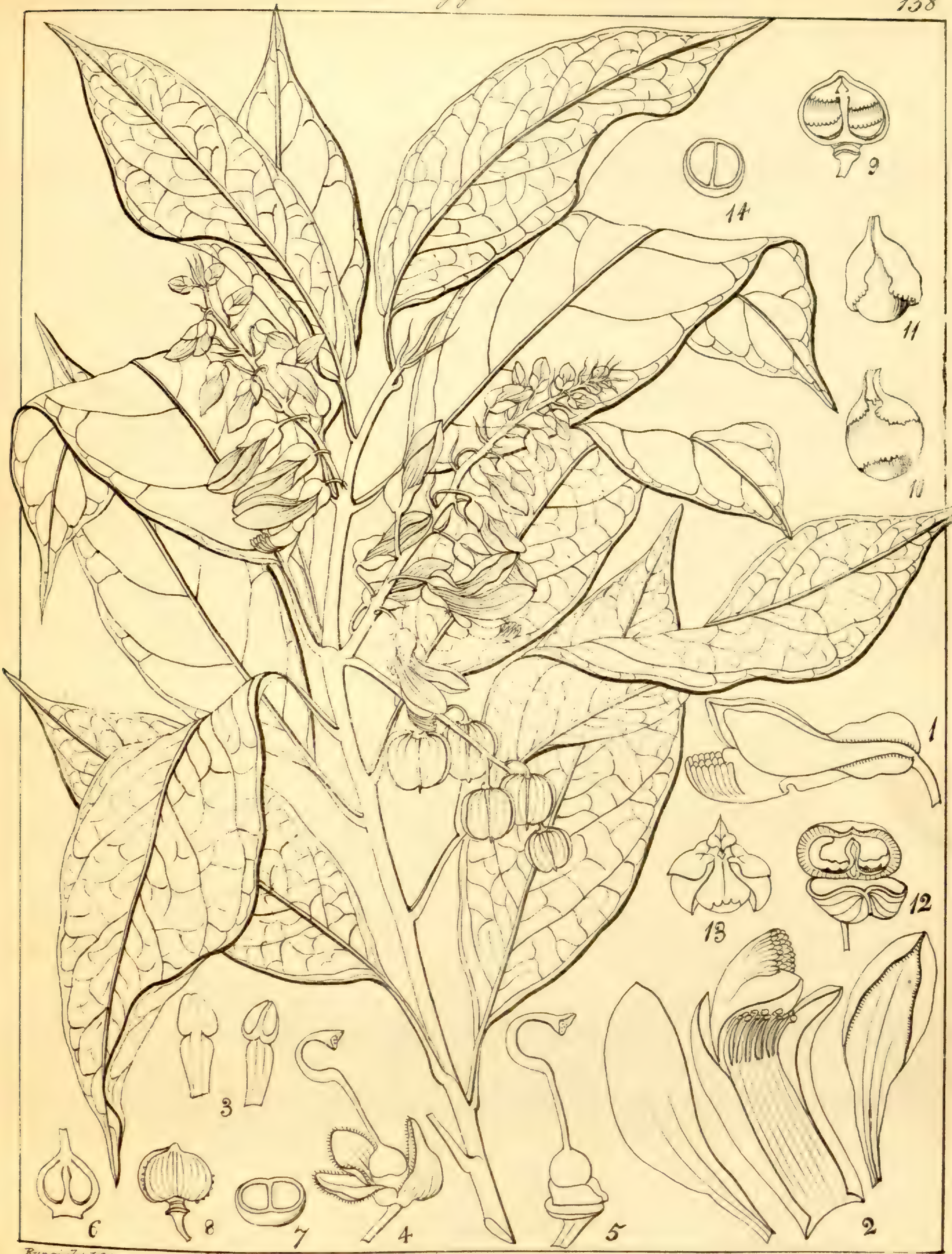
Rungiah del. Dumphy Lith:

Drosera Burmanni (Vahl.)



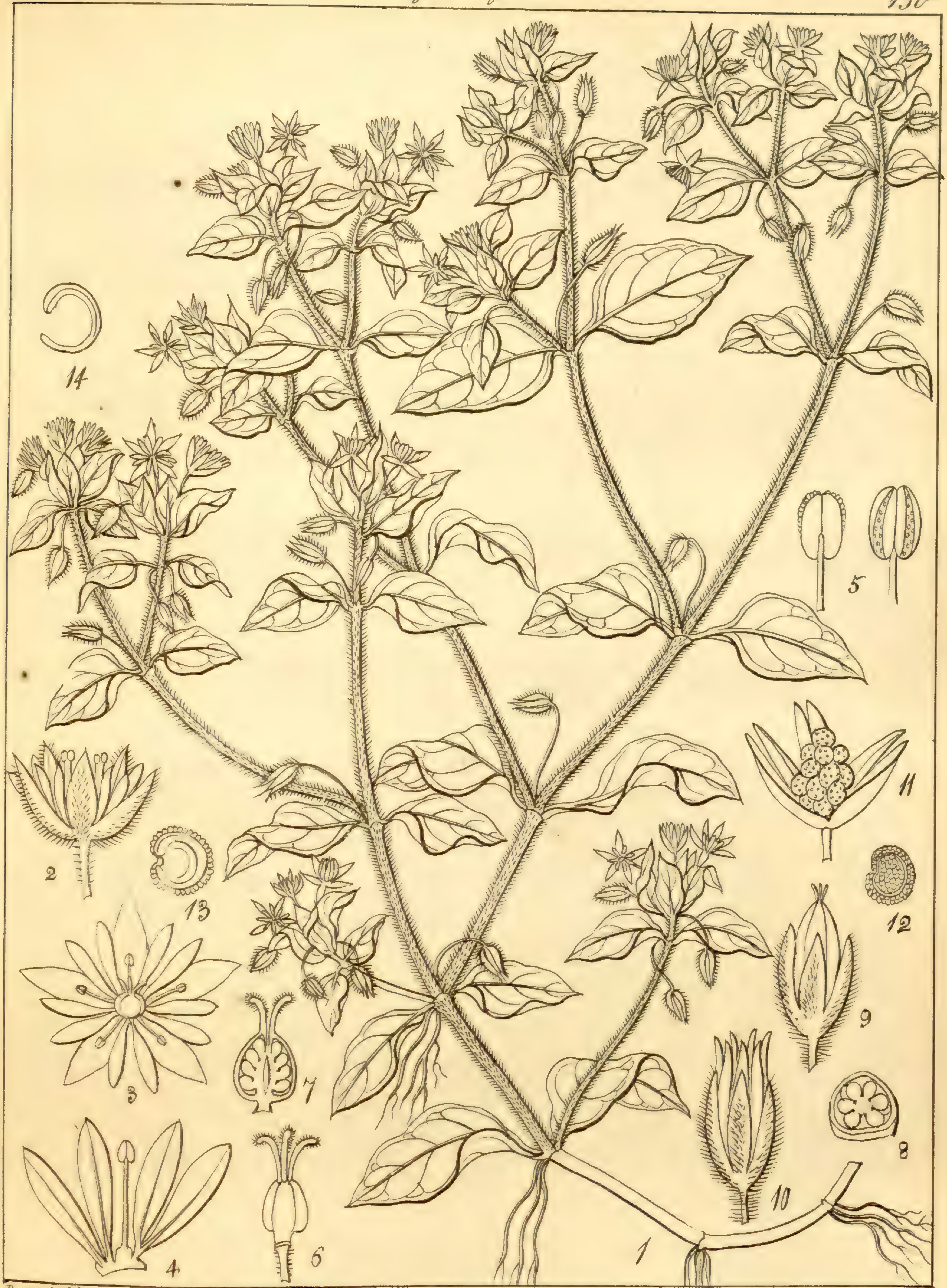
Rungiah, del. Dumphy lith.

Parnassia Wightiana (Wall)



Rungiah, del. Dumphy, lith.

Polygala arillata (Ham)

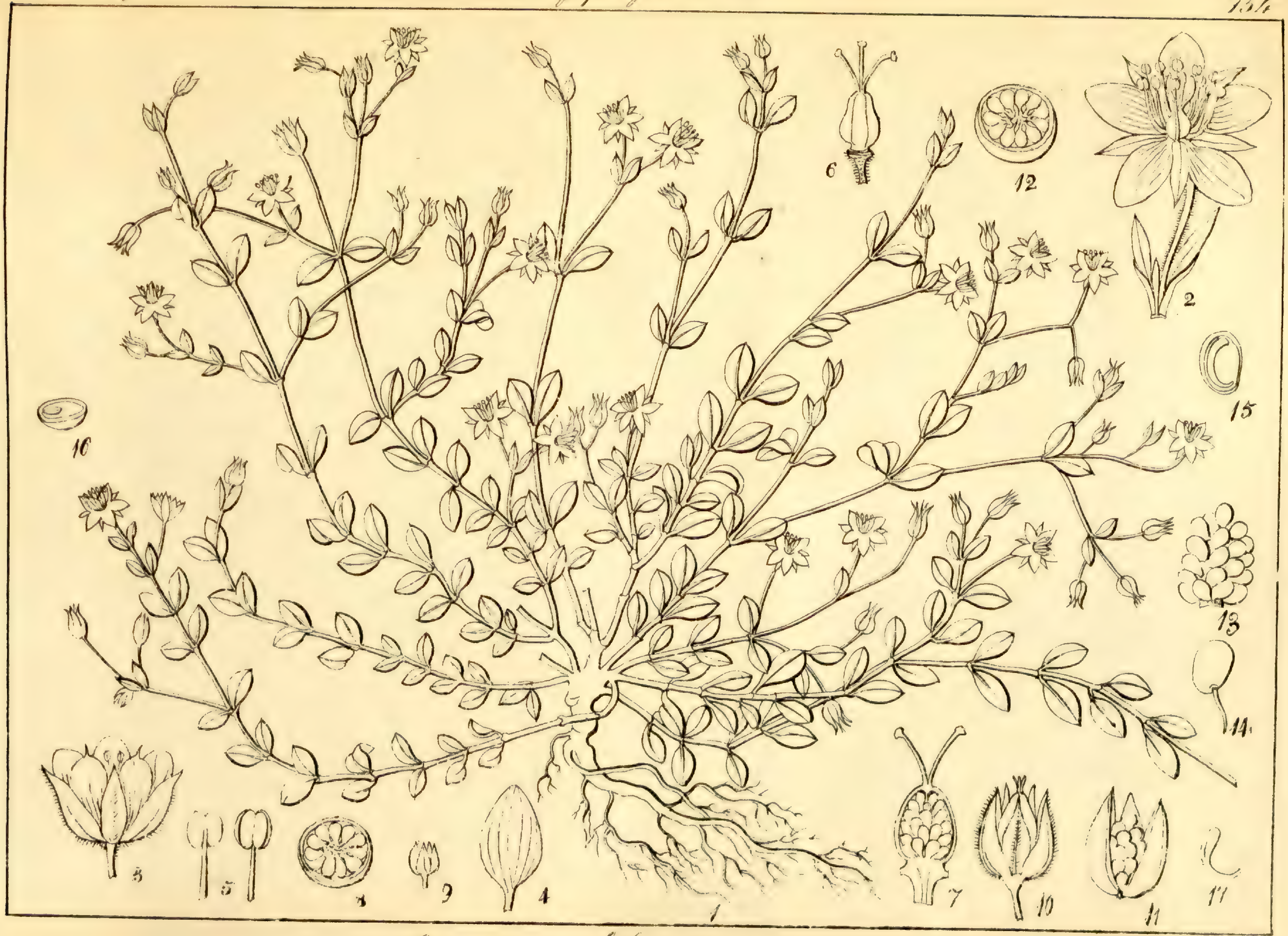


Rungiah del. Dumphy, Lith.

Stellaria media (Smith)

[illegible] del Dumphy, lith

Cerastium vulgatum (Linn)

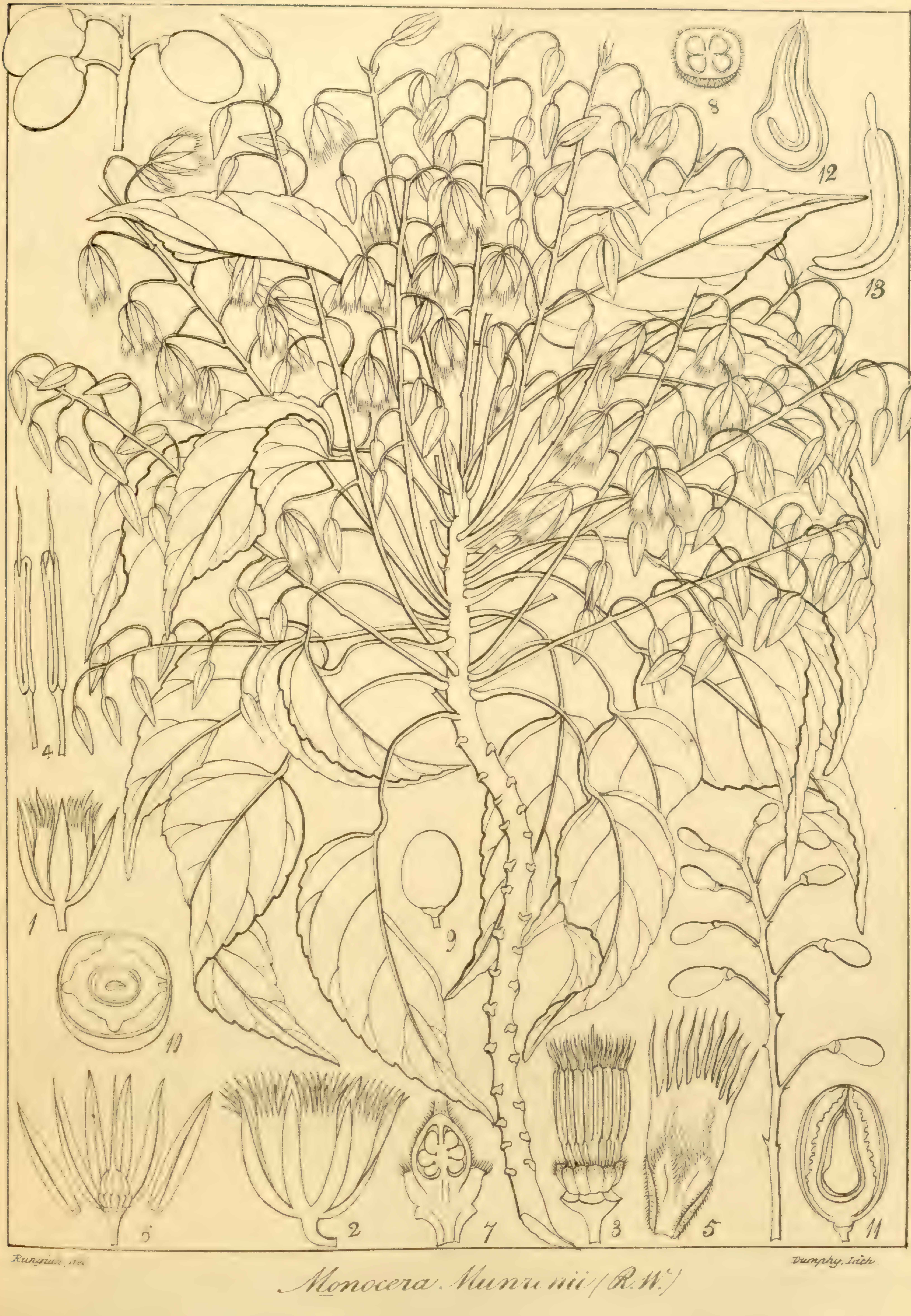


Arenaria neilgherrense (W. & A.)

Malva neilgherrensis (R.W.)

Dumphy, Lith.

Abelmoschus angulosus (Wall)

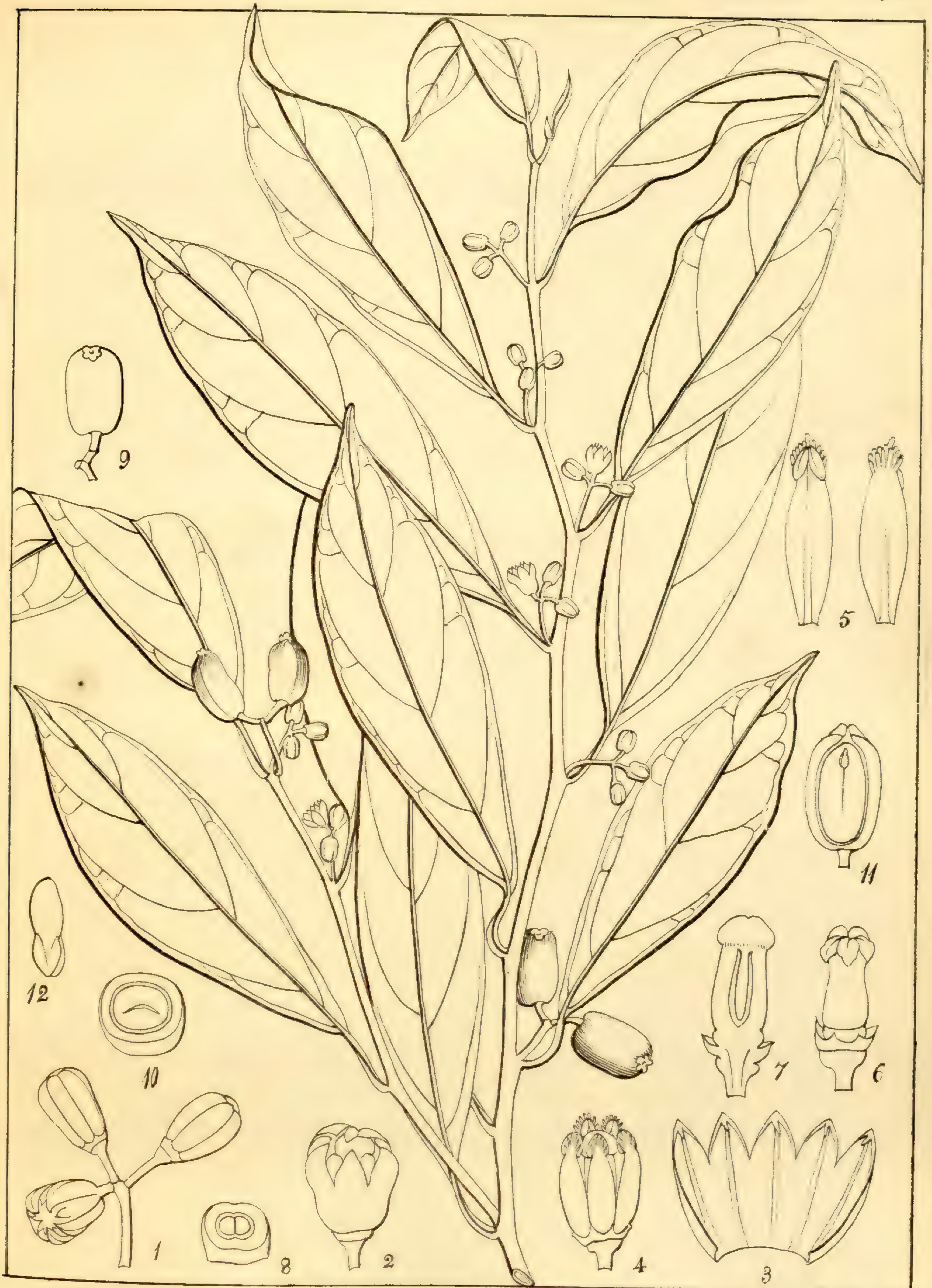


Rungiah, del. Dunphy, Lith.

Monocera Munronii (R.W.)

Rungiah del. Dumphy lith.

Gomphandra polymorpha W. (K.W.)



Dunsky Lith.

Gomphandra polymorpha ♀ (R.W.)

Stemonurus? fœtidus (R.W.)

Rungiah del. Dumphy lith.

Bursinopetalum arbreum (R.W.)

Dumphy, Lith.

Citrus (A.) vulgaris (Risso)

Rungiah, del. Dumphy. Lith.

Citrus (Limetta (Risso)

Rungiah, del. Dumphy, lith.

Hypericum Hookerianum (W. & A.)
Norysca (Spach)

Rungiah del. Dumphy Lith.

Garcinia papilla ♂ (R. W.)

Rungiah del. Dumphy Lith.

Garcinia papilla. ♀ (R. W.)

Rungiah, del. Dumphy, Lith.

Mesua speciosa (Chois)

Rungiah, del. Dunphy, lith.

Salacia macrosperma

Rungiah, del. Dunphy, Lith.

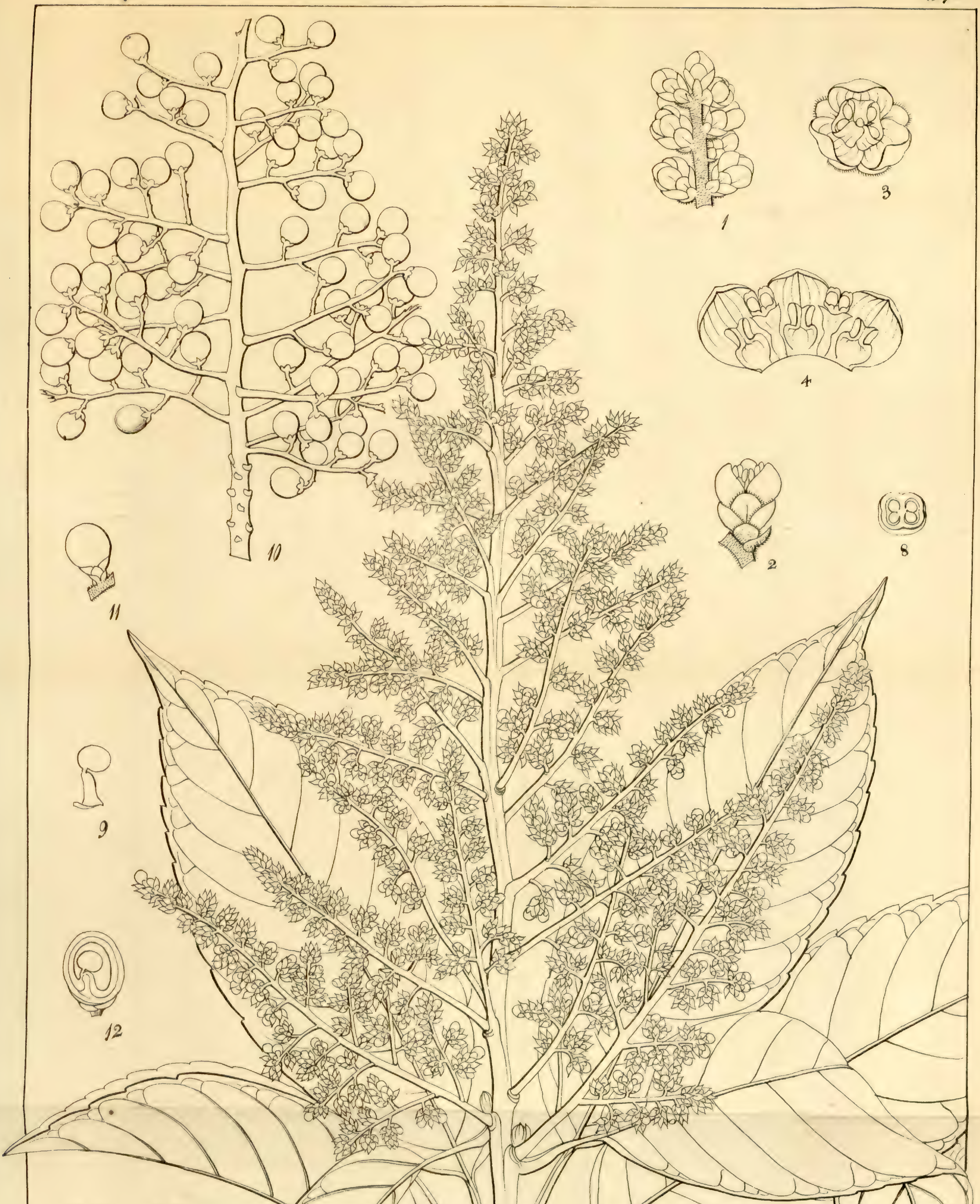
Hippocratea obtusifolia (Roxb)

Rungiah, del. Dumphy, Lith.

Schmidelia Rheedii (R.W.)
Molago marum (Rheede)

Rungiah, del. Dumphy, Lith.

Schmidelia Cobbe (D.C.)



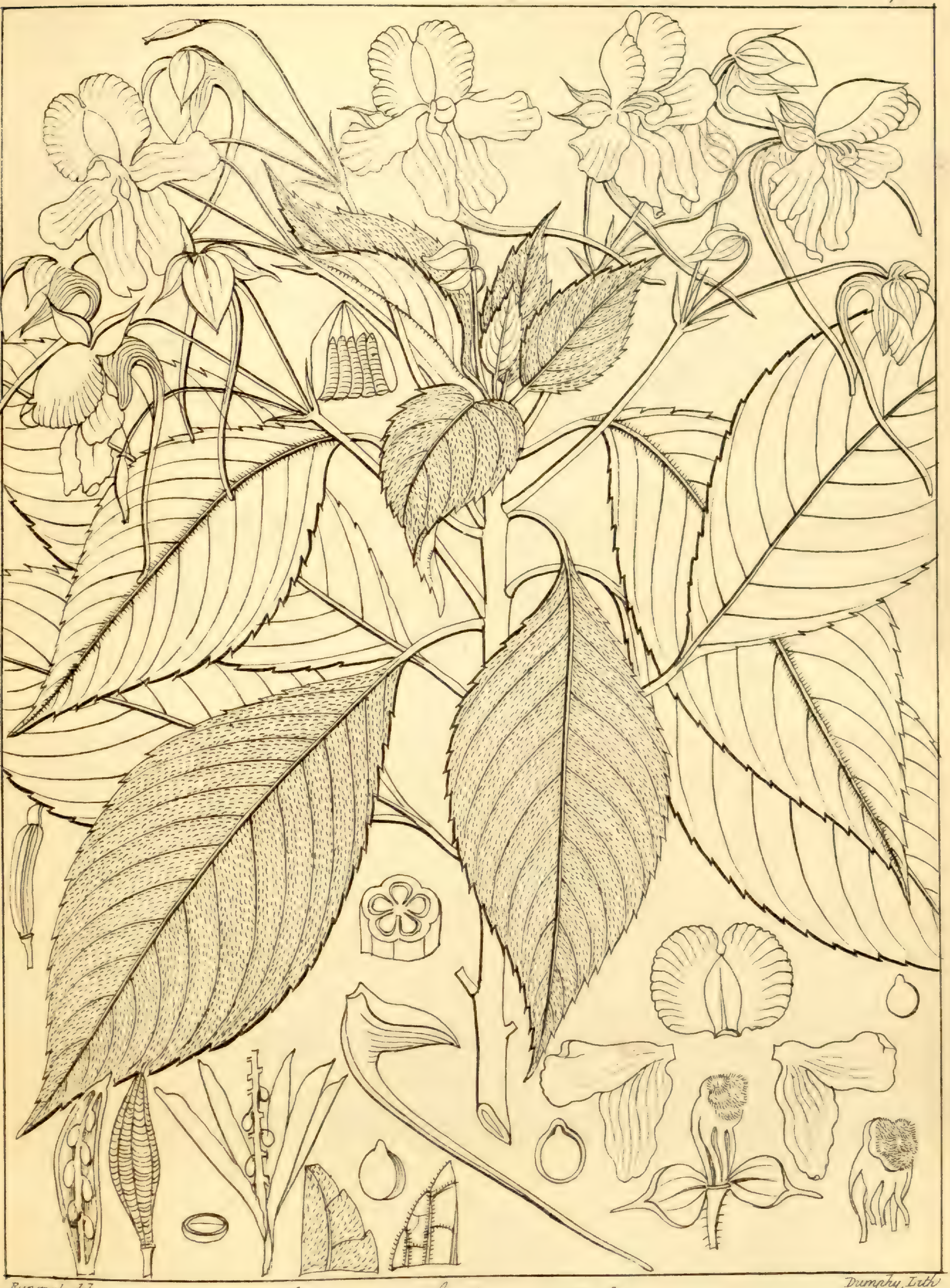
Rungiah; del

Dumphy, Lith

Millingtonia pungens (Wall)

Rungiah, del. Dunphy, lith.

Vitis (ampelopsis) Neilgherriensis (R.W)



Rungiah, del.

Dumphy, Lith

Impatiens fruticosa (D.C.)

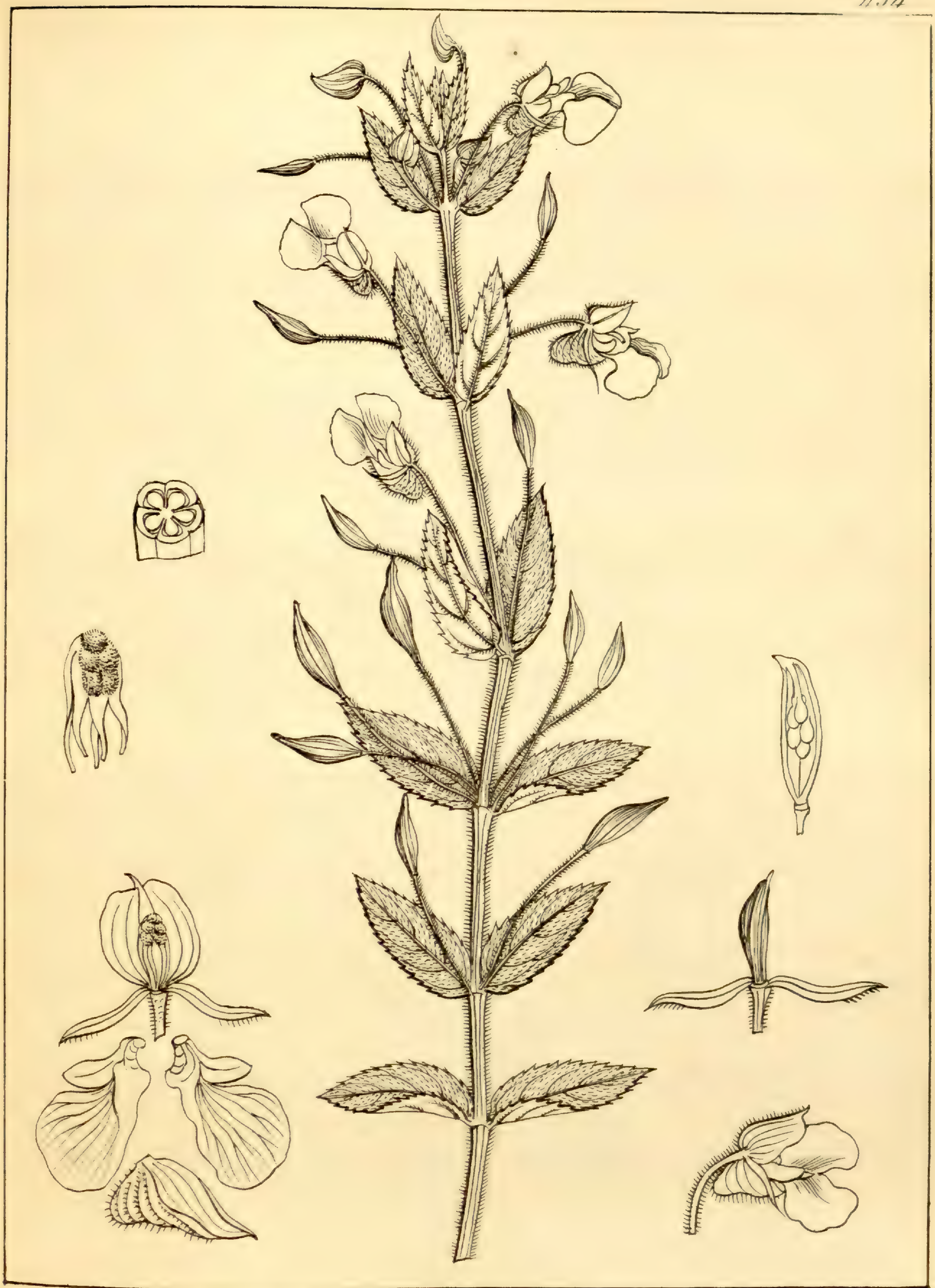
Rungiah, del.

Dumphy Lith

Impatiens scapiflora (Heyne)

Rungiah, del. Dumphy, Lith.

Impatiens modesta (R. W.)



Rungiah, del. Dumphy, Lith.

Impatiens rufescens (Benth.)

Rungiah, del. Dumphy, Lith.

Impatiens inconspicua (Benth)

Rungiah, del. Dumphy, Lith.

Impatiens Leschenaultii (Wall)

Dumphy, Lith.

Pittosporum tetraspermum (W. & A.)

Rungiah del. Dumphy Lith.

Turpinia nepalensis (Wall)

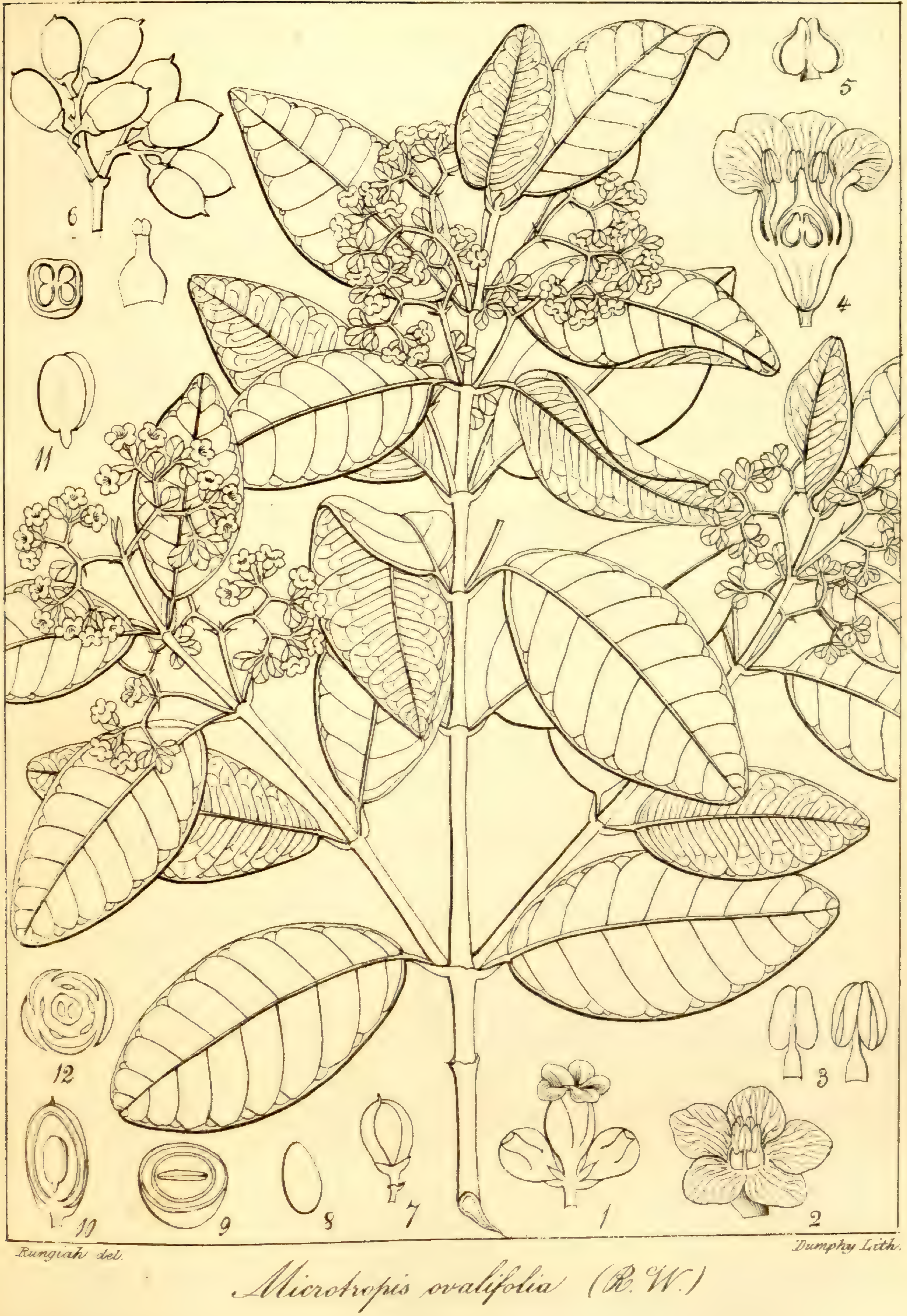
Rungiah, del. Dumphy, Lith.

Euonymus crenulatus (Wall W&A)

Gouania leptostachya (D.C)

Rungiah del. Dumphy Lith.

Microtropis microcarpa (R.W.)



Rungiah del. Dumphy Lith.

Microtropis ovalifolia (R. W.)

Rungiah del. Dumphy, Lith.

Microtropis ramiflora (R.W.)

Rungiah del.

Dumphy, Lith.

Rhamnus hirsuta (W. & A.)

Rungiah, del. Dumphy, Lith.

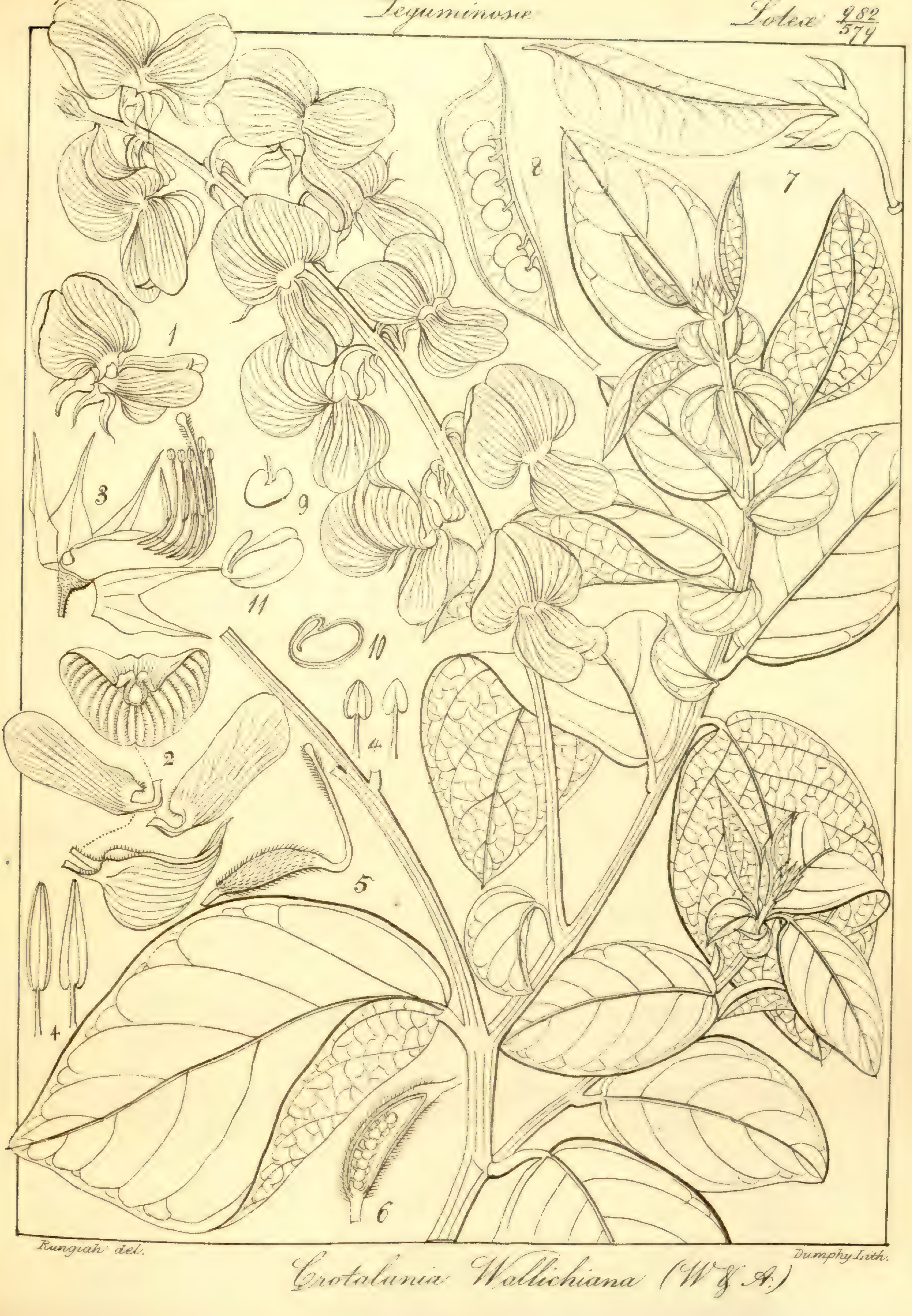
Sophora glauca (Lesch)

Rungiah del. Dumphy lith.

Crotalaria barbata (Graham)

Rungiah, del. Dunphy, lith.

Crotalaria formosa (Graham)



Rungiah del. Dumphy Lith.

Crotalaria Wallichiana (W & A.)

Rungiah del

Dumphy Lith.

Indigofera pedicellata

Rungiah, del. Dumphy, Lith.

Desmodium rufescens (D.C.)

Rungiah del. Dumphy Lith.

Desmodium strangulatum (W. & A.)

Rungiah, del. Dunphy, Lith.

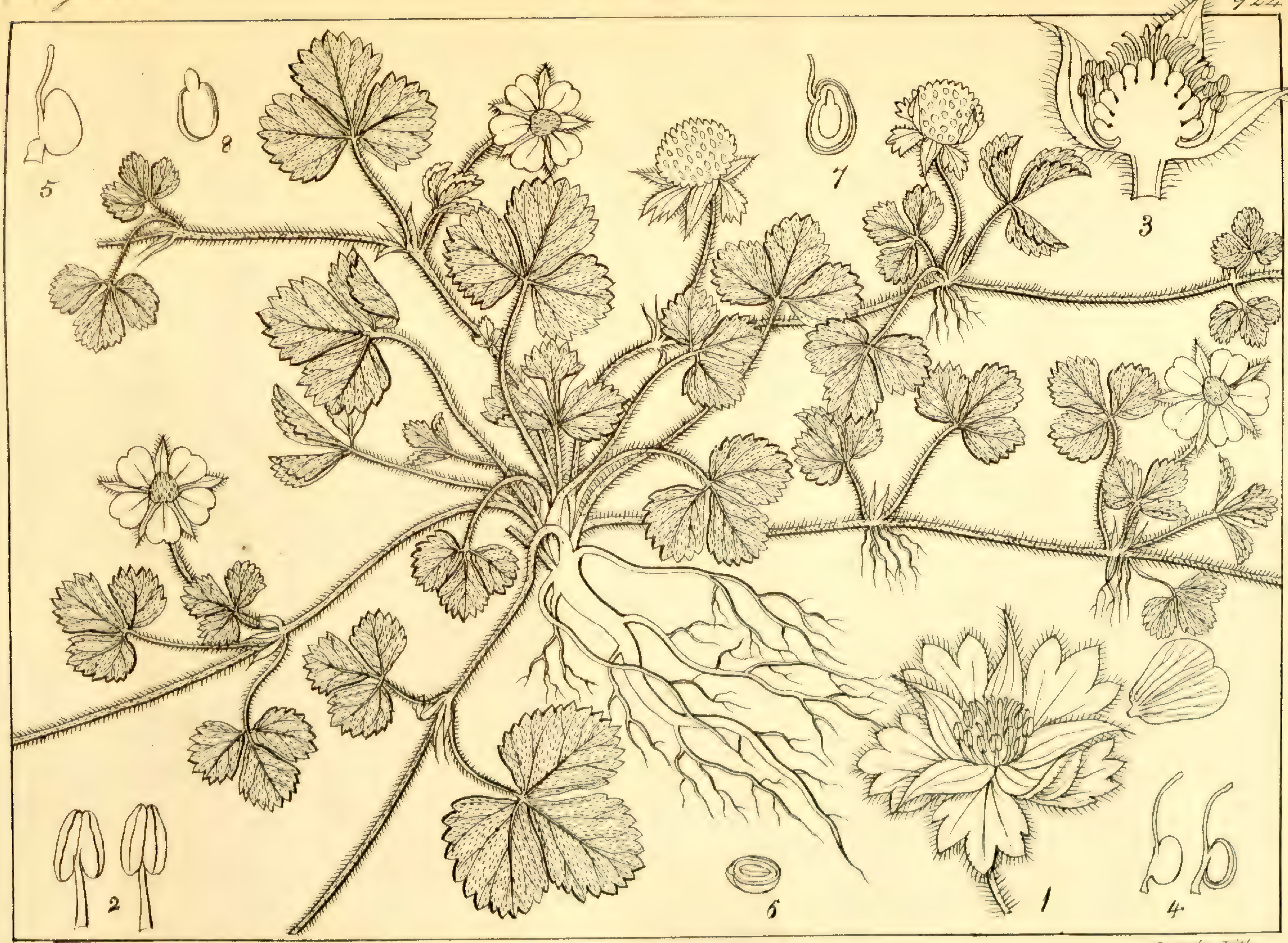
Smithia blanda

Rungiah, del

Flemingia procumbens (R. W.)

Rungiah, del. Dumphy, Lith.

Fragaria elatior (Ehrh)

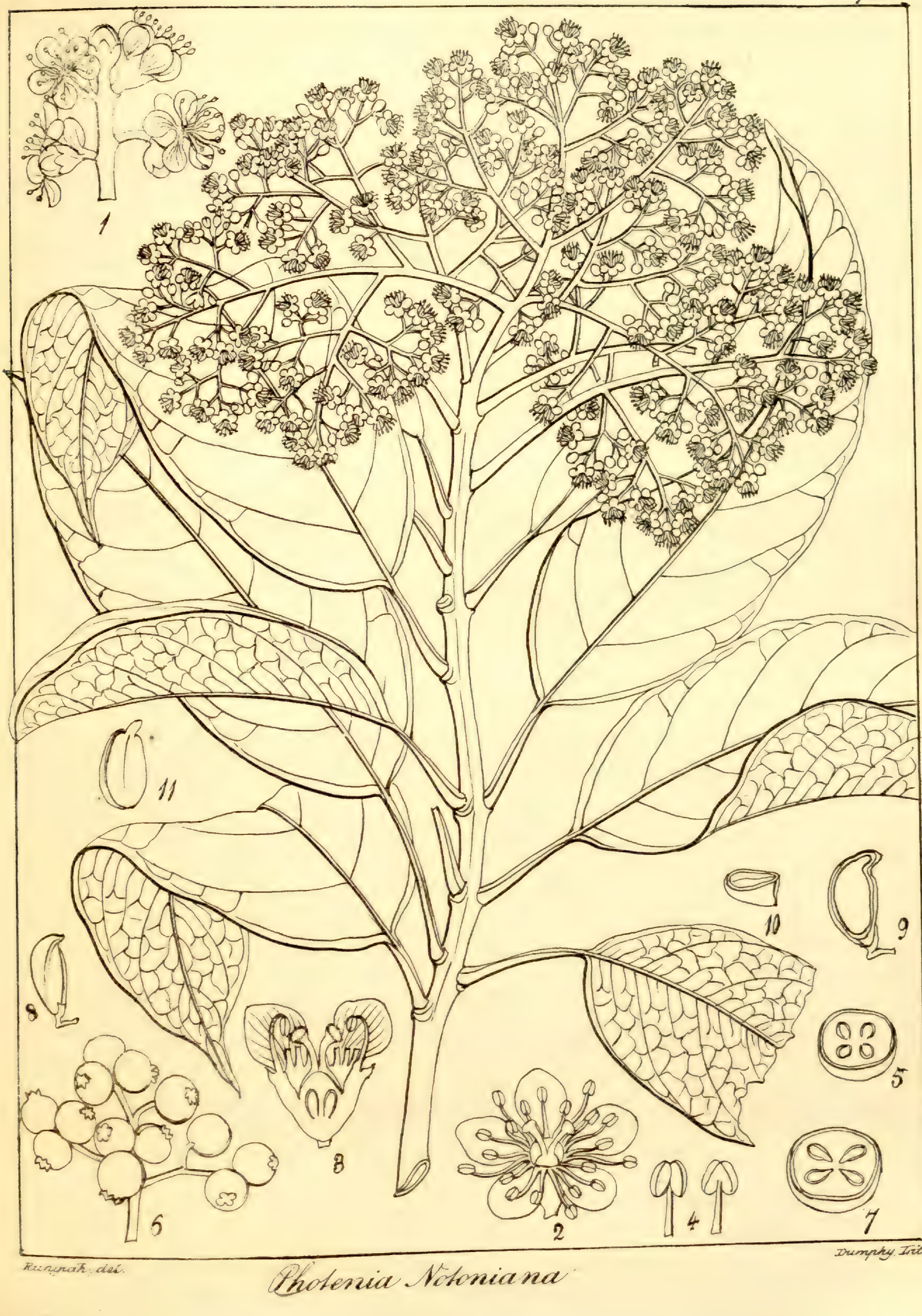


Rungiah del. Dumphy Lith.

Fragaria indica (Andr.)

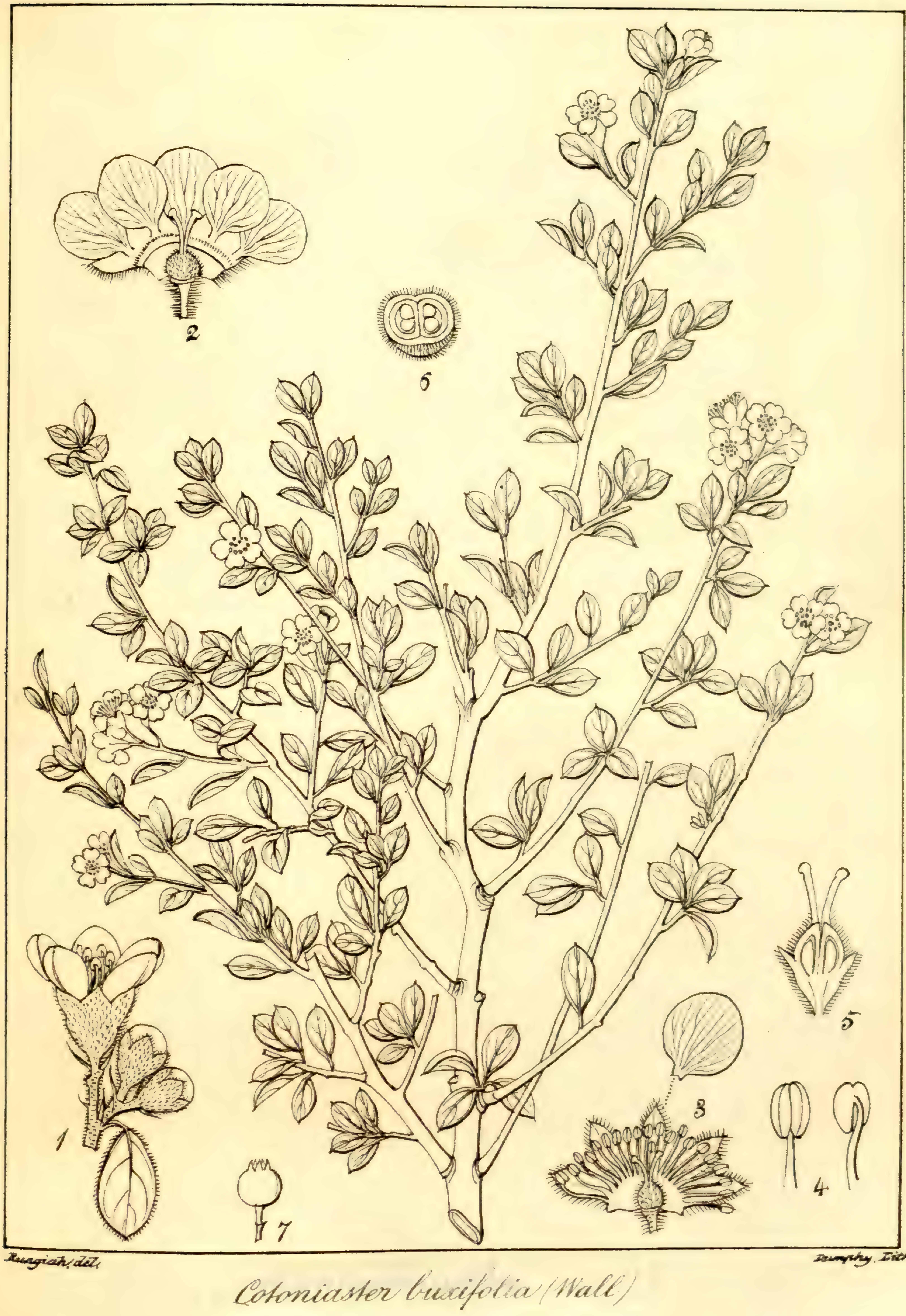
Rungiah, del. Dumphy, lith.

Potentilla Leschenaultiana (Ser)



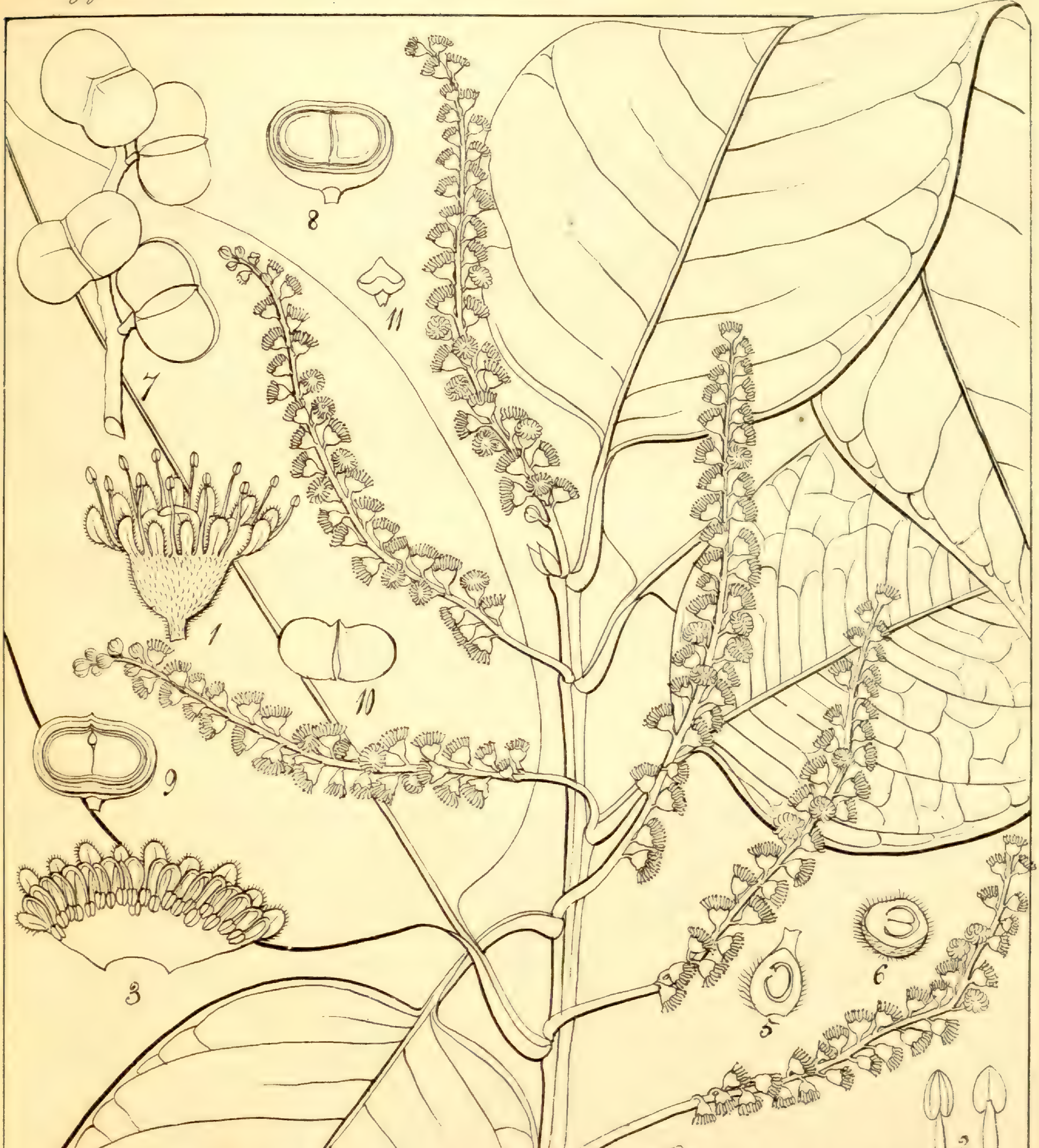
Runqah, del. Dumphy, lith.

Photenia Notoniana



Ruagiah, del. Dumphy, Lith.

Cotoniaster buxifolia (Wall)



Rungiah del. Dumphy Lith.

Pygeum acuminatum ? (Colebr.)

...rah, del Dunphy, lith

Conocarpus latifolia (Roxb)

Rungiah, del. Dumphy, Lith.

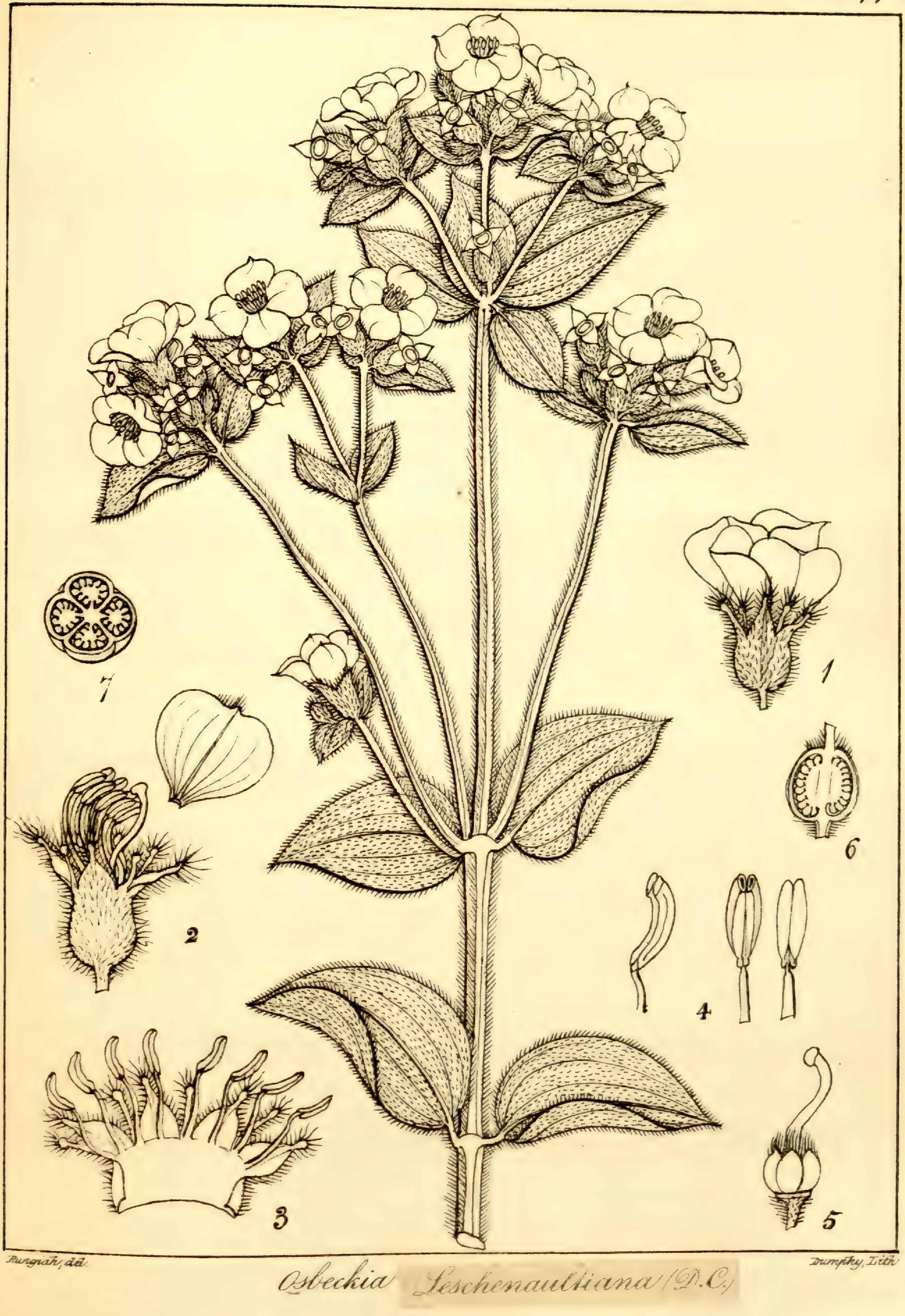
Sonerila grandiflora (R. Br.)

Rungiah, del. Dunphy, Lith.

Sonerila speciosa (Zenker)

Rungiah, del. Dumphy, Lith.

Sonerila eligans (R.W.)



Rungiah, del. Dumphy, Lith.

Osbeckia Leschenaultiana (D.C.)

Rungiah, del. Dumphy, Lith.

Osbeckia Gardneriana (R. W.)

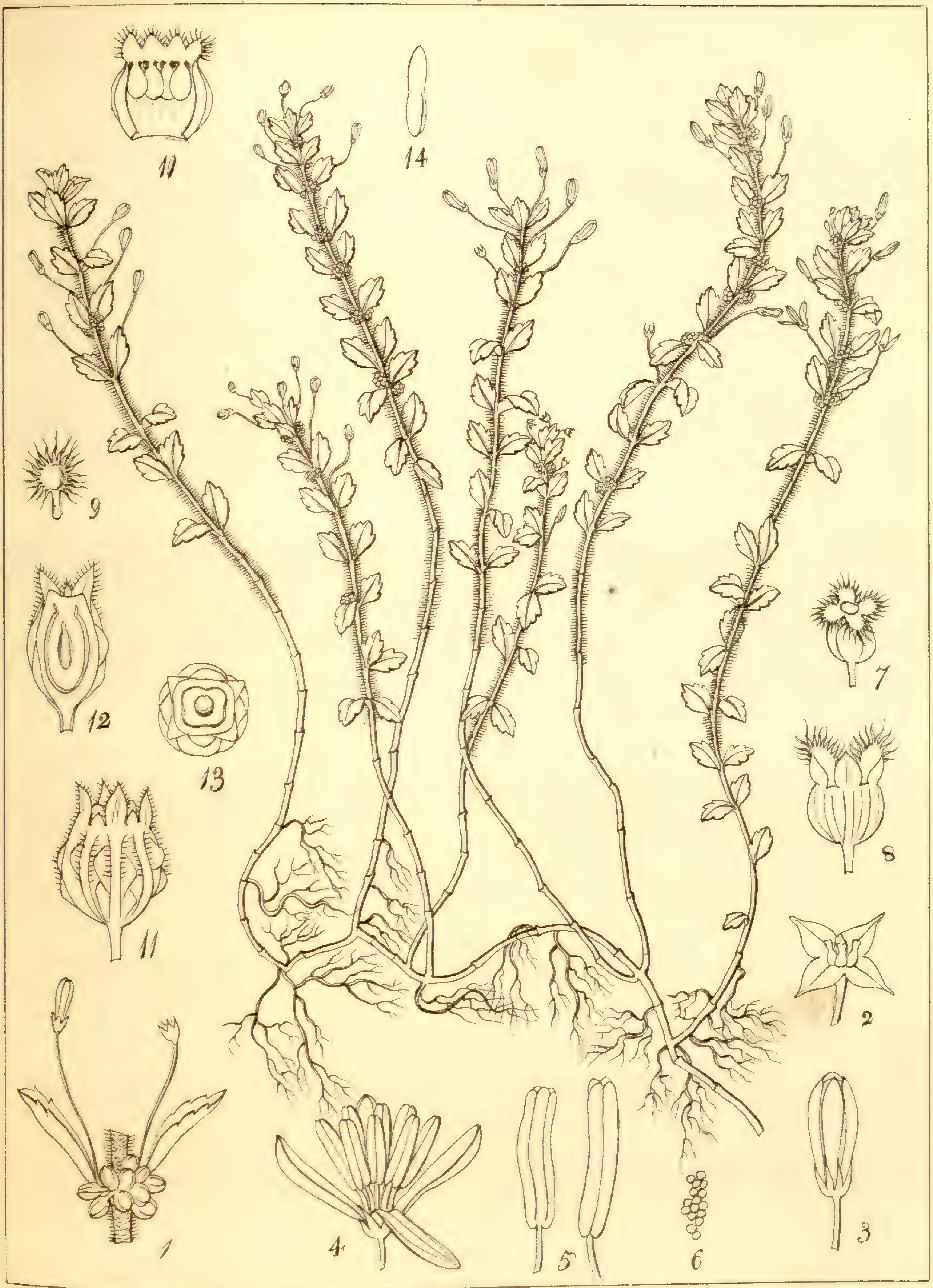
Osbeckea Wightiana (Benth)

Rungiah del. Dumphy, Lith.

Eugenia (S) Arnottiana (R.W.)

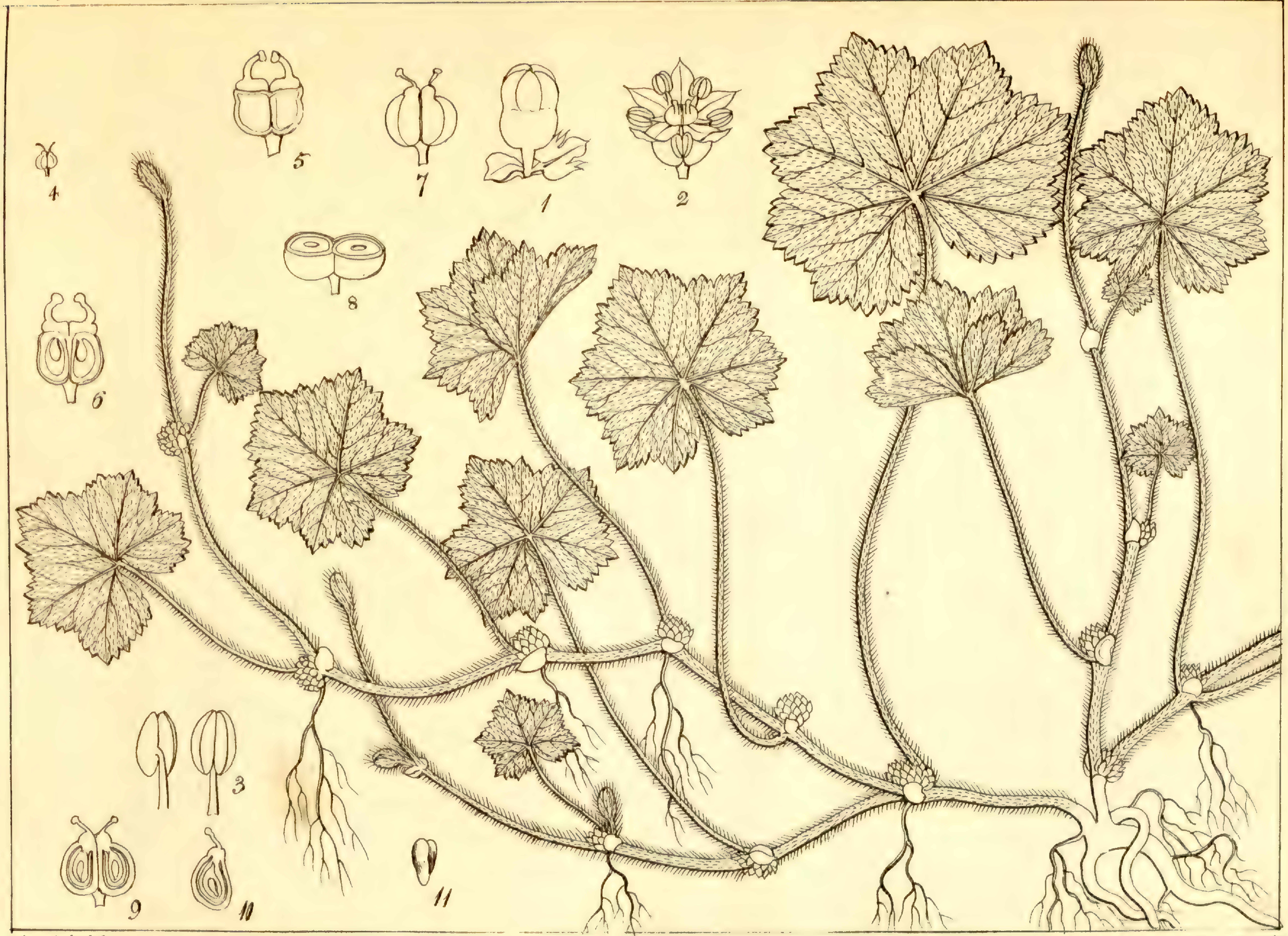
Rungiah, del. Dumphy, Lith.

Eugenia (S) calophyllifolia (R.W.)



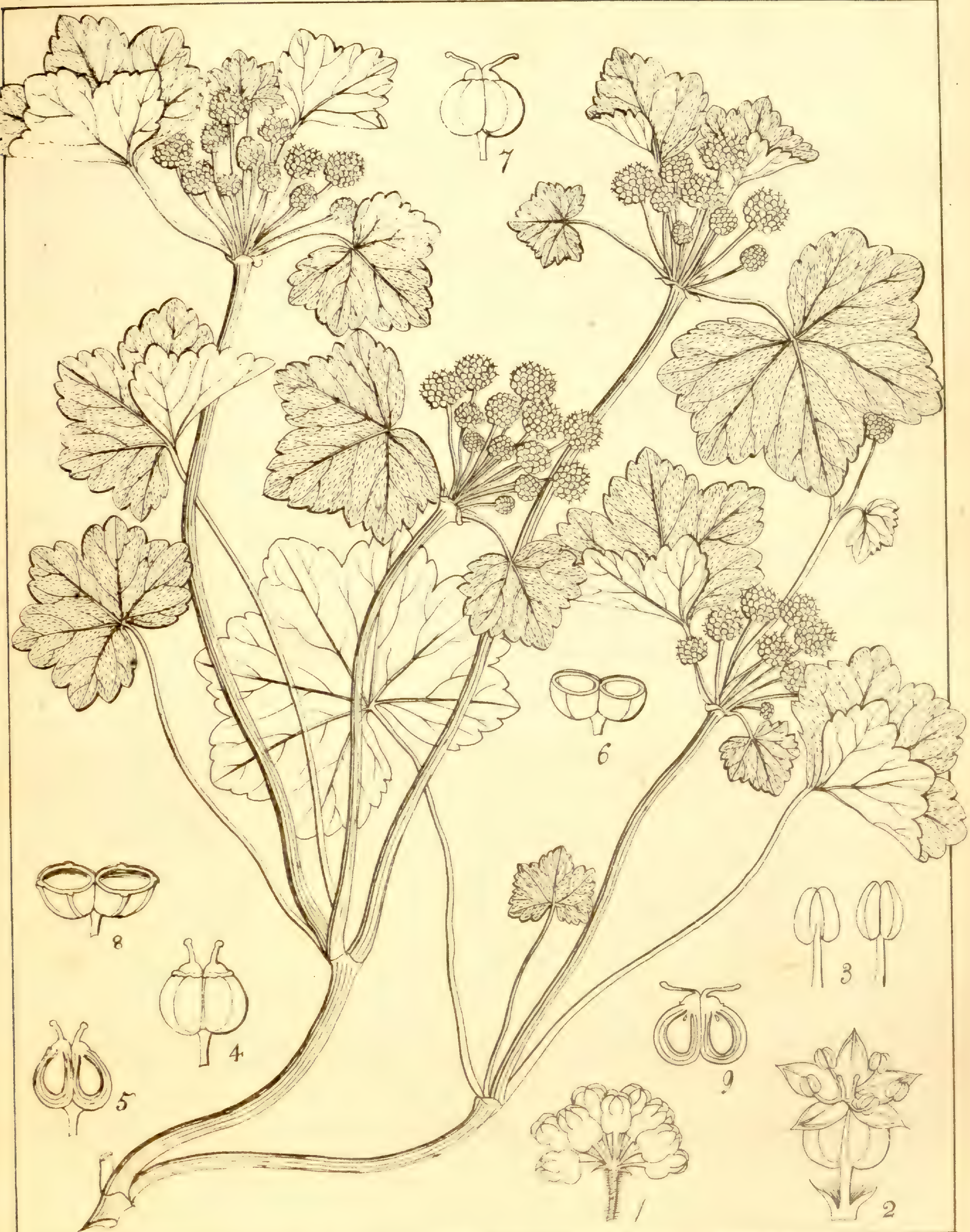
Rungiah, del. Dumphy, Lith.

Serpecula hirsuta (W & A)



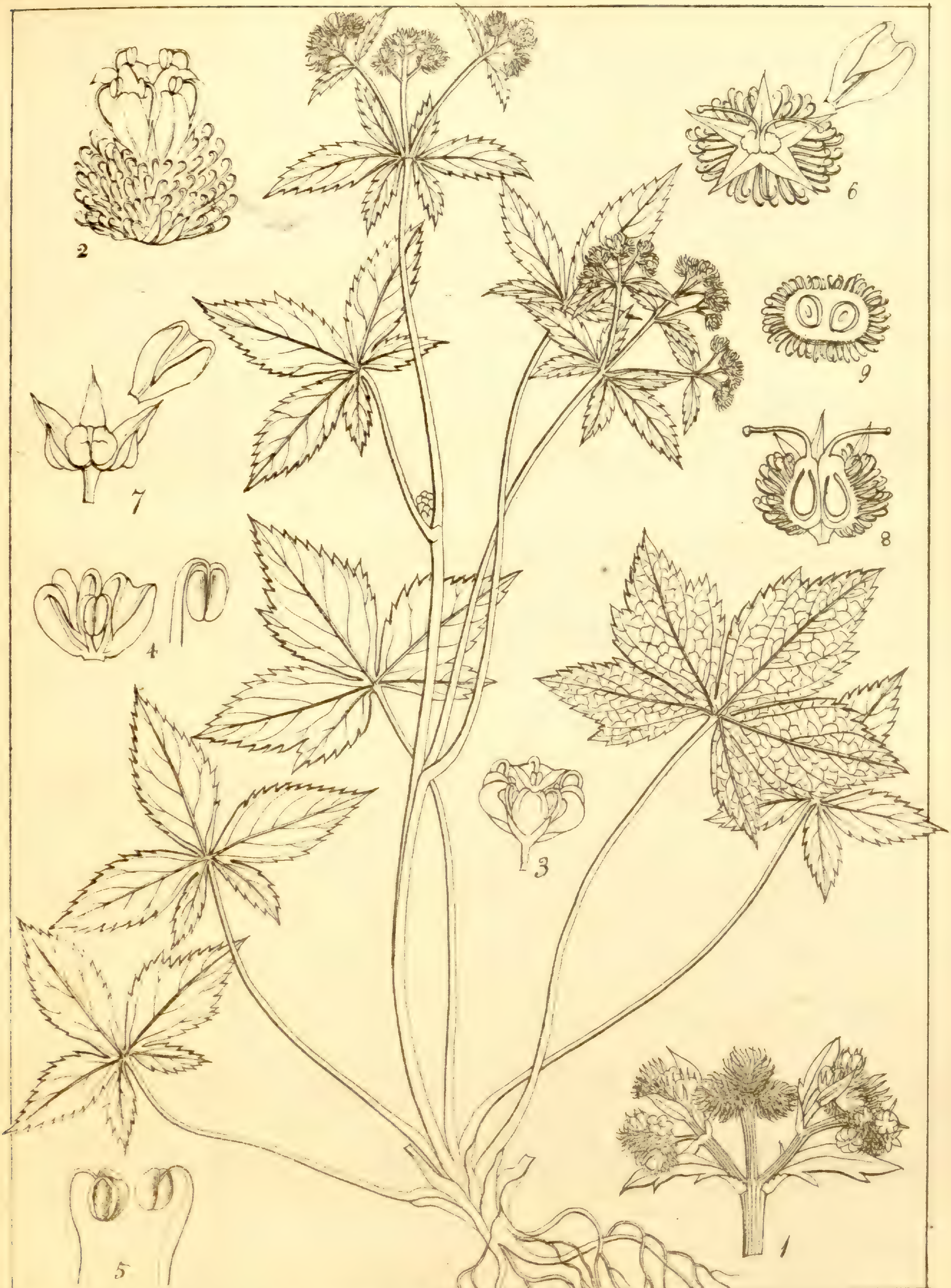
Rungiah, del.   [illegible]phy, lith.

Hydrocotyle conferta (R.W.)



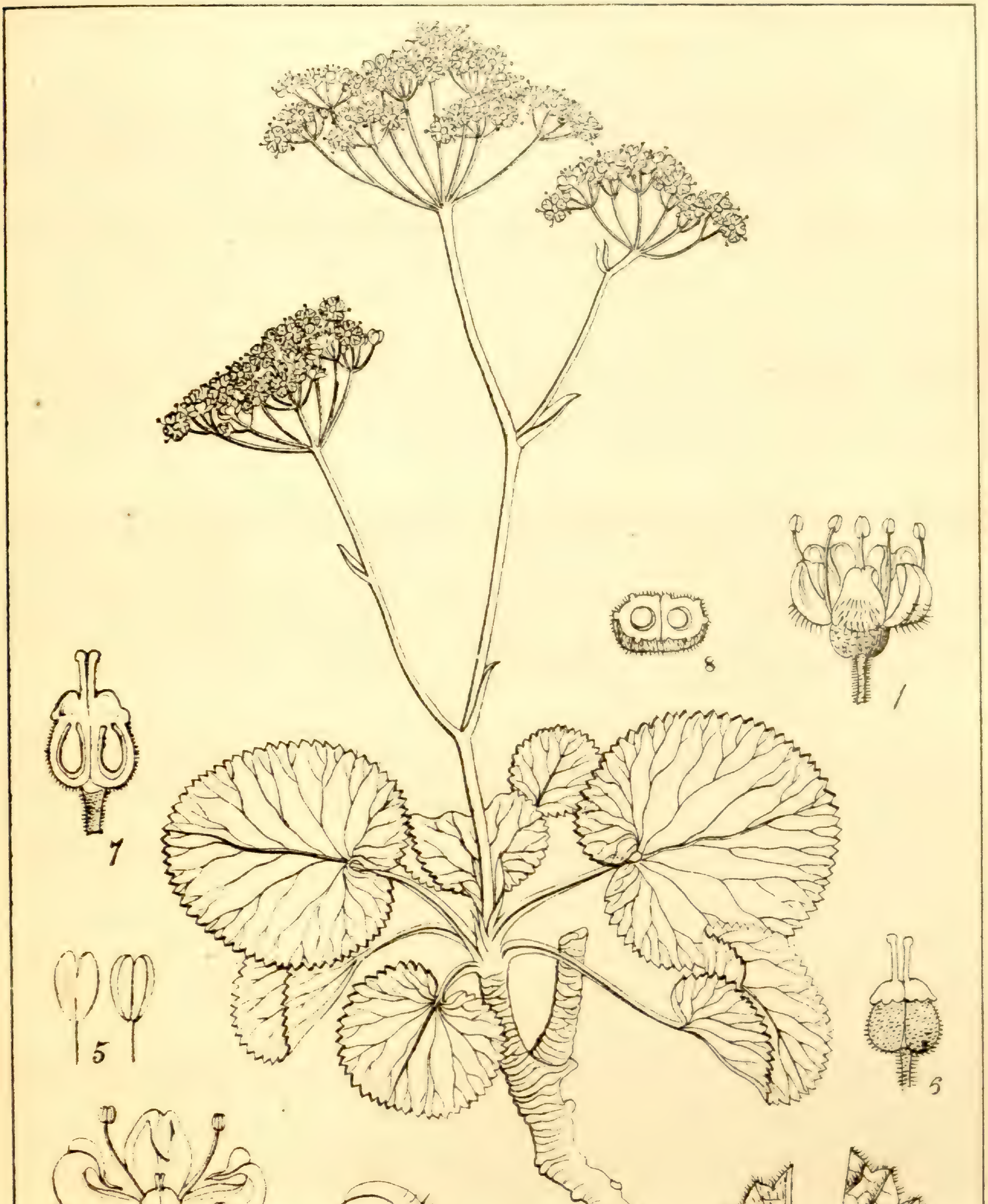
Rungiah, del. Dumphy, Lith.

Hydrocotyle polycephala (W & A)



Rungiah del. Dunphy, Lith.

Sanicula elata (Wam)

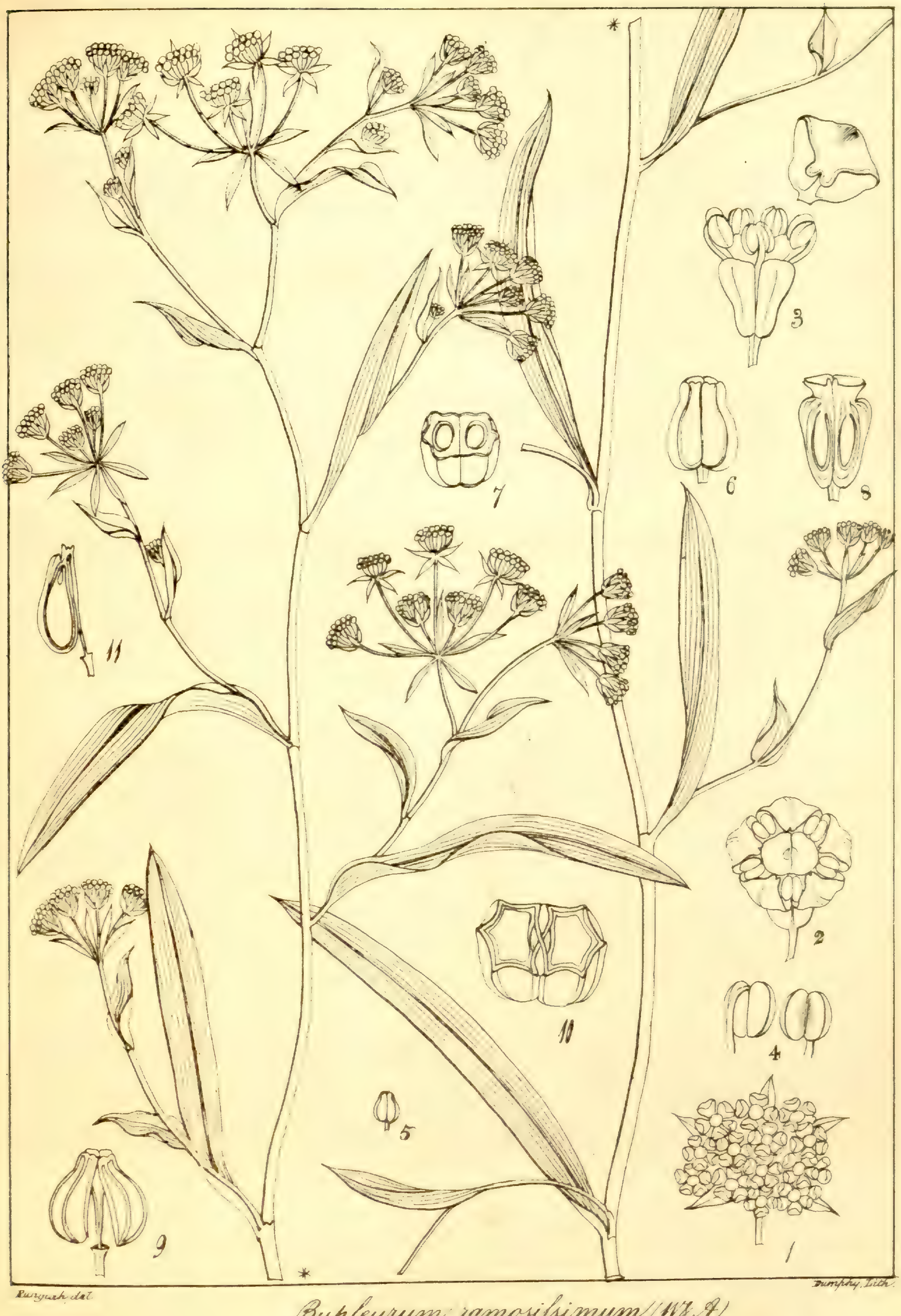


R. agah, del. Dumphy, Lith

Pimpinella Leschenaultii (D. C.)

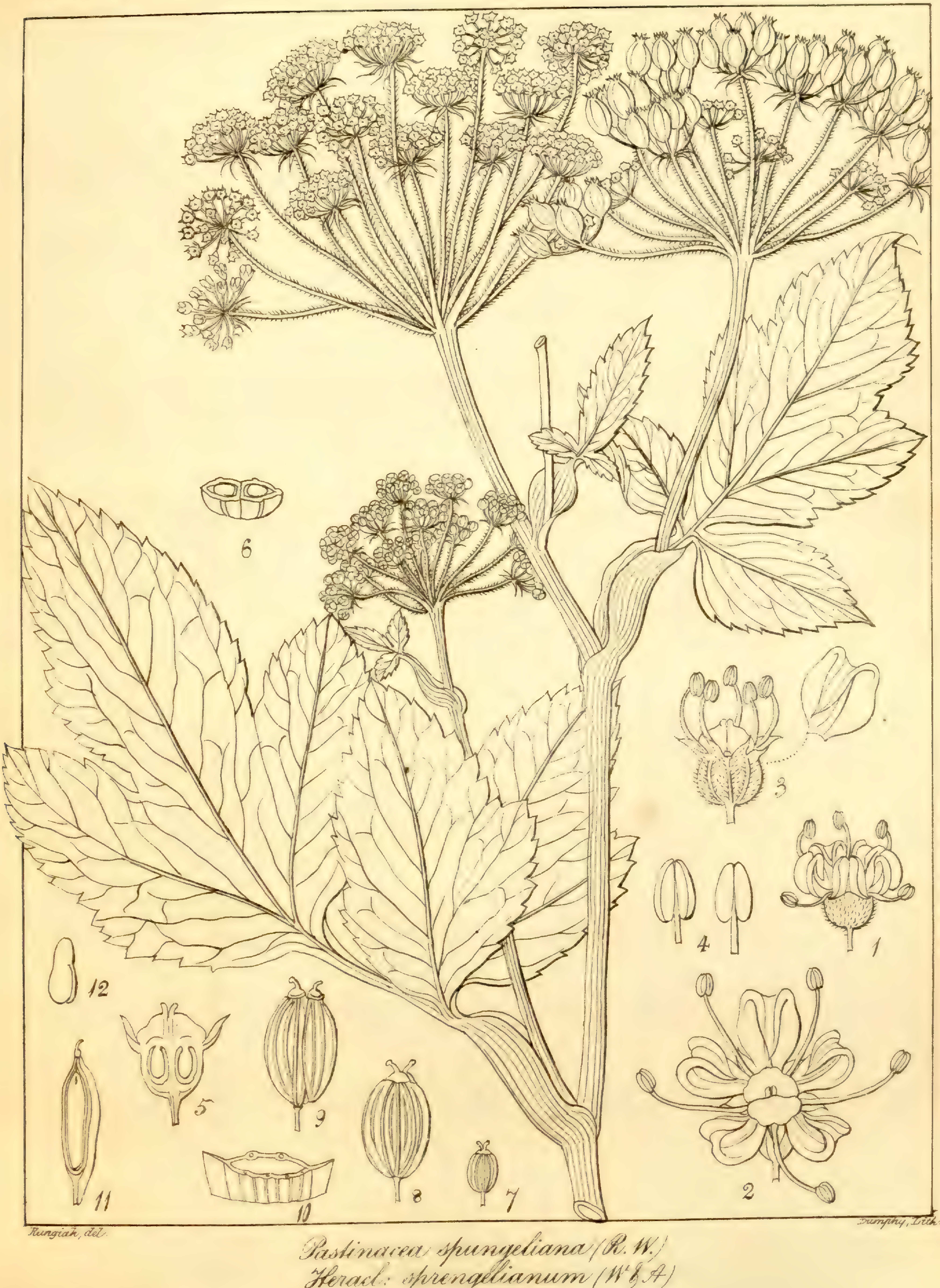
Rungiah del.   Dunphy Lith.

Bupleurum distichophyllum (W. & A.)



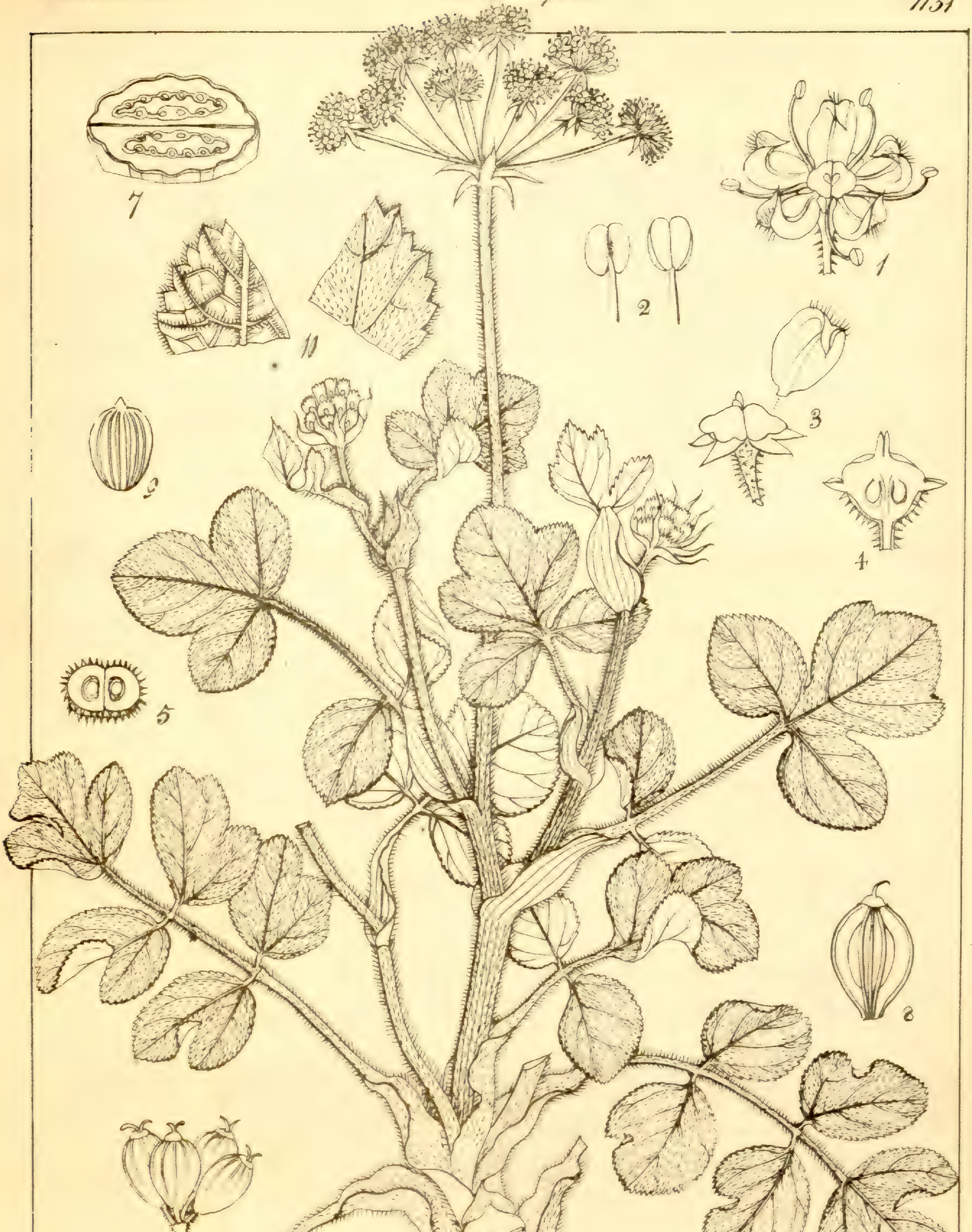
Burgeah del. Dunphy Lith.

Bupleurum ramosissimum (W. & A.)



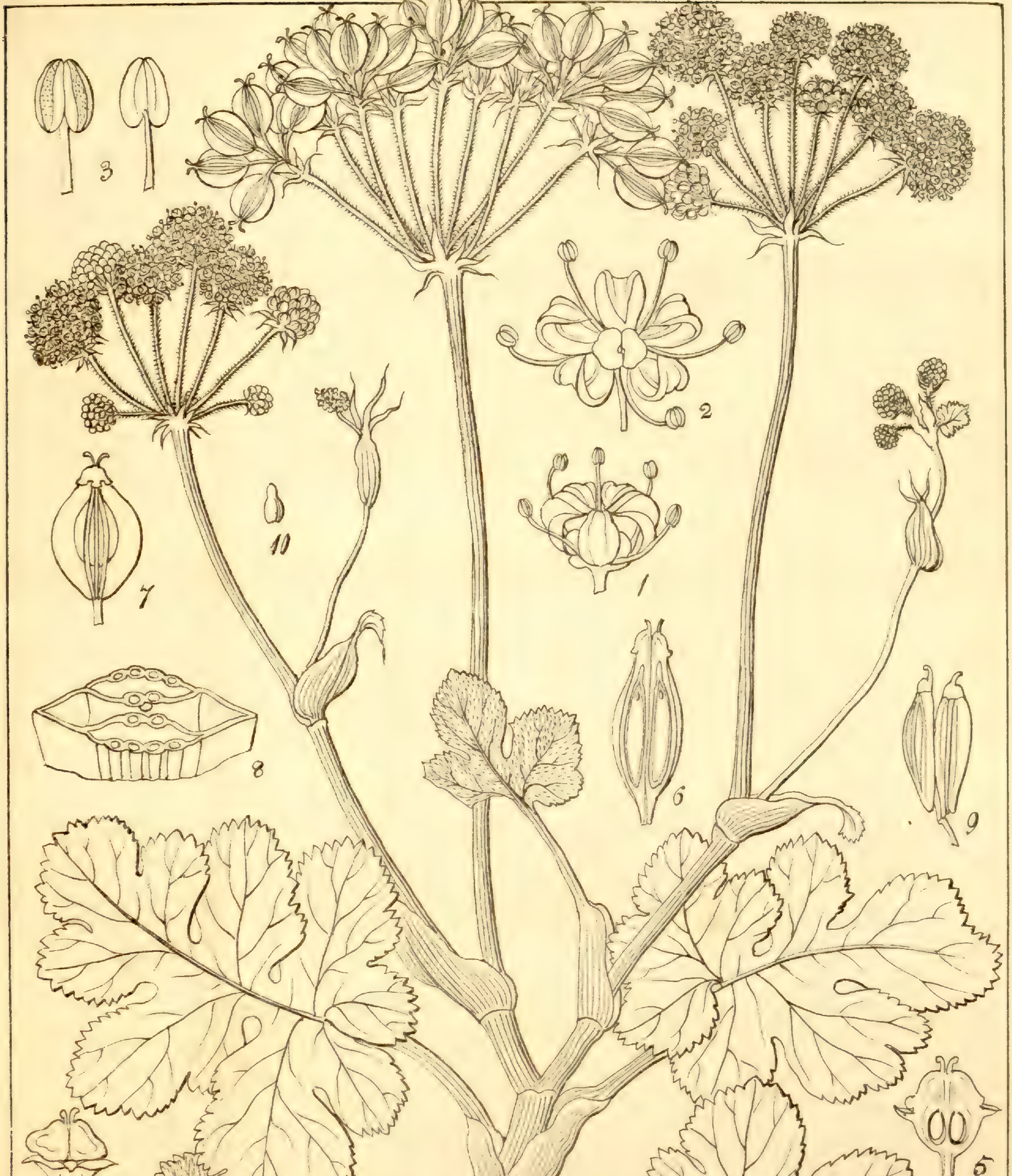
Rungiah, del. Dumphy, Lith.

Pastinacea sprengeliana (R. W.)
Heracl: sprengelianum (W & A)



Rung Jr, del. Dunphy, Lith.

Pastinaca rigens (R.W.)
Heracleum rigens (Wall W&A)



Bungiah del. Dumphy Lith.

Pastinaca Hookeriana. (R. W.)
Heracl: Hookerianum. (W. & A.)

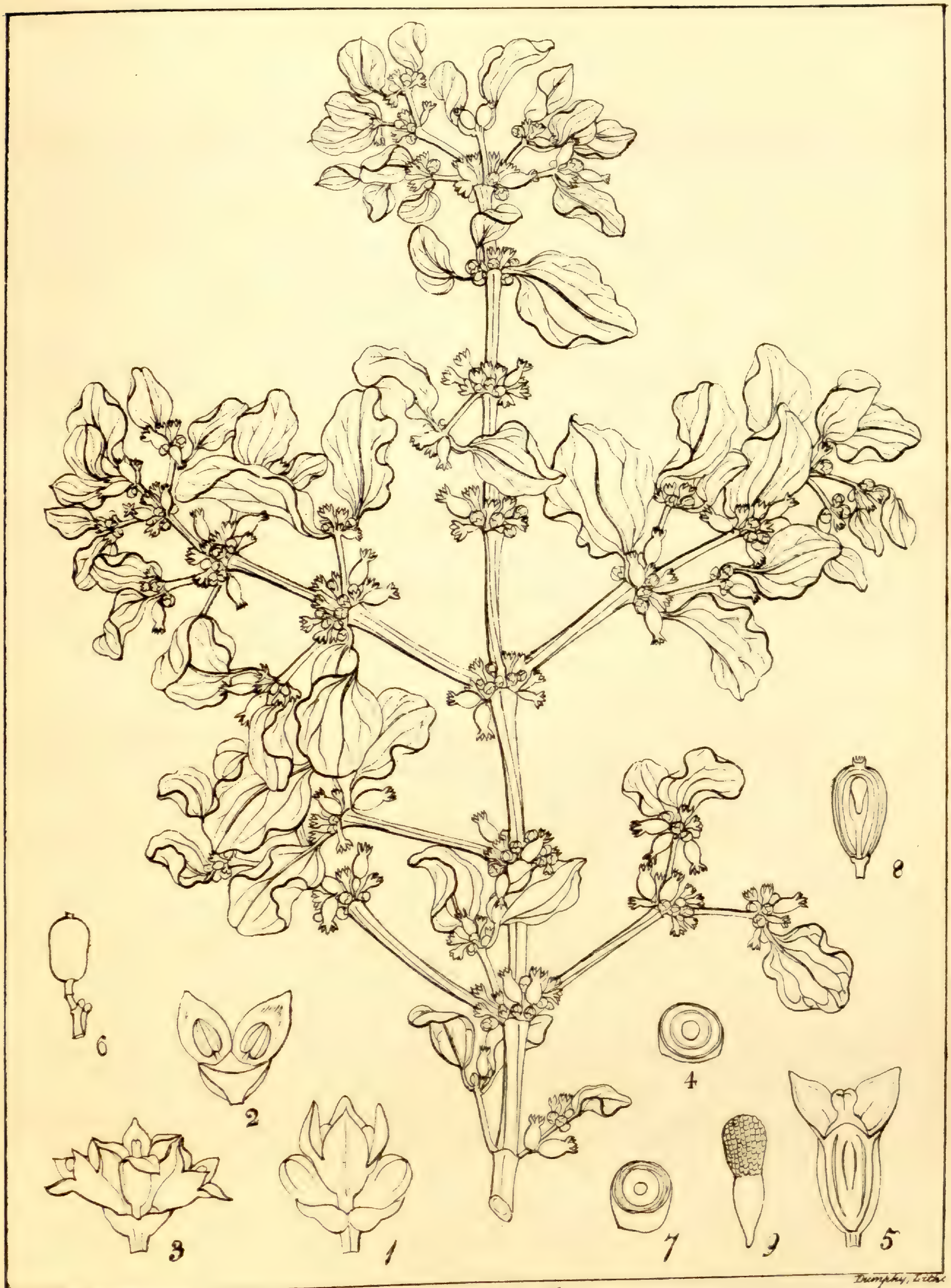
Rungiah del. Dumphy Lith.

Hedera obovata (R. W.)

Rungiah del. Dumphy, Lith

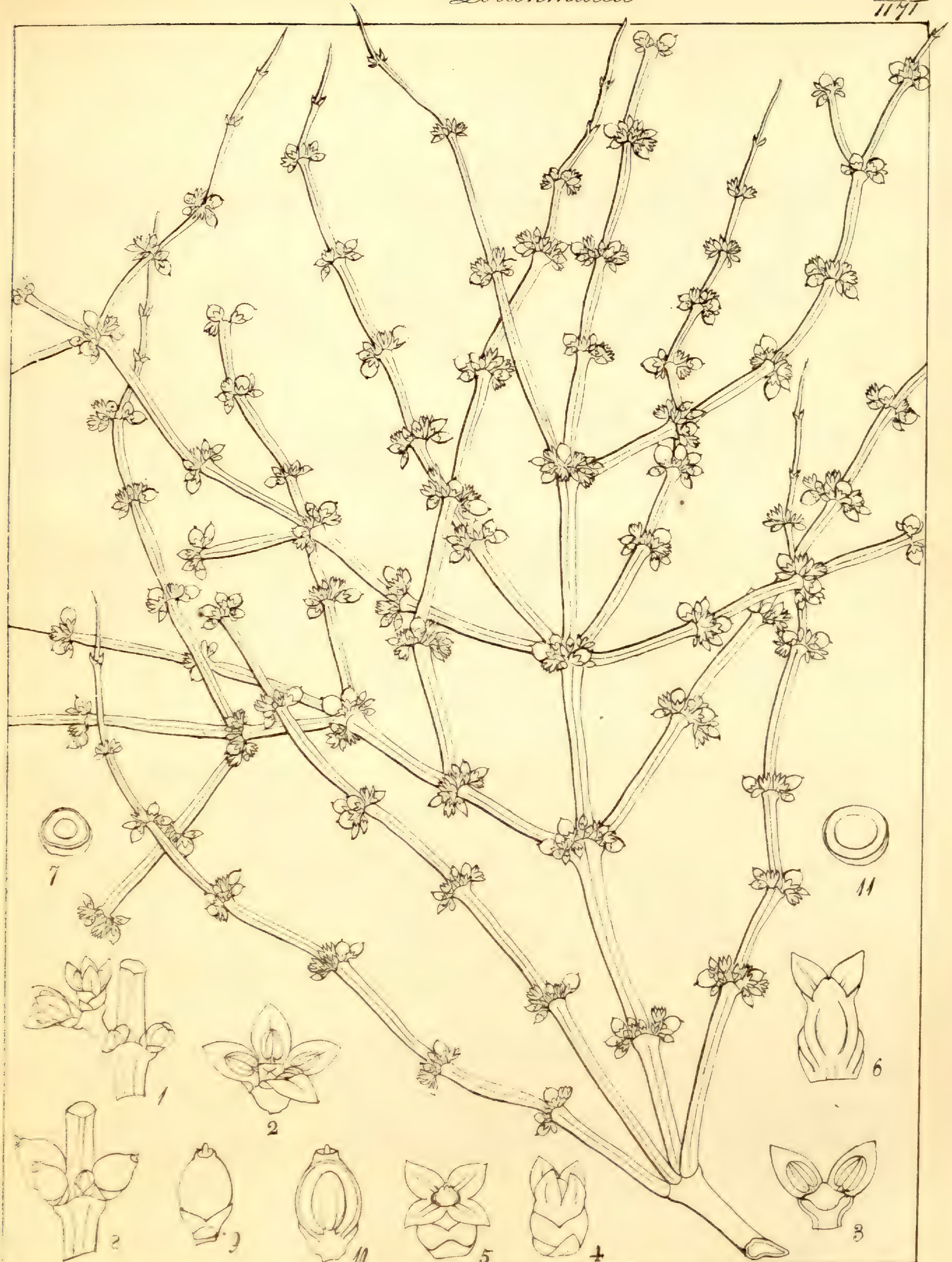
Hedera rostrata

Hedera racimosa (R. W.)



Rungiah, del. Dumphy, Lith.

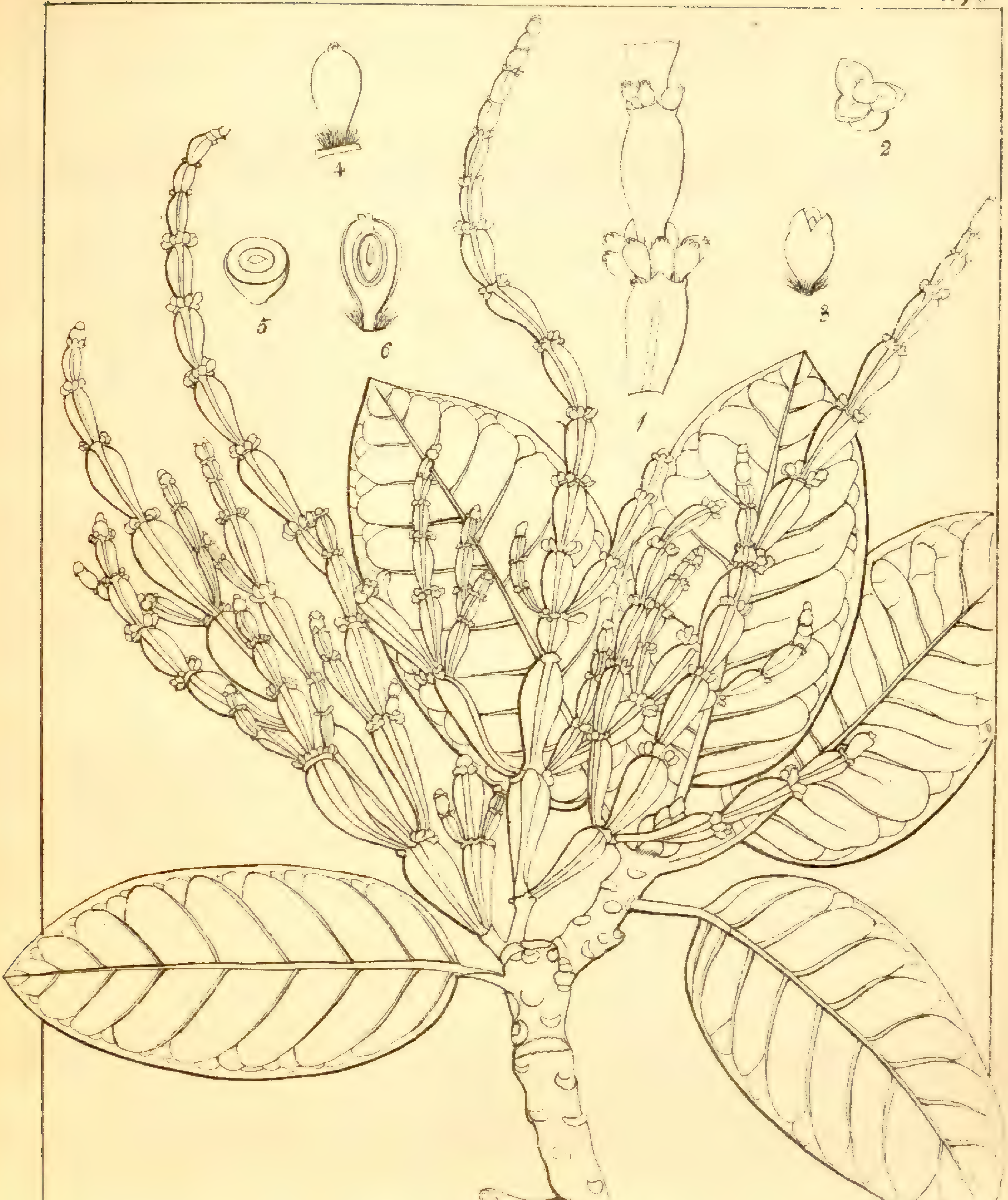
Viscum orbiculatum



Rungiah, del.

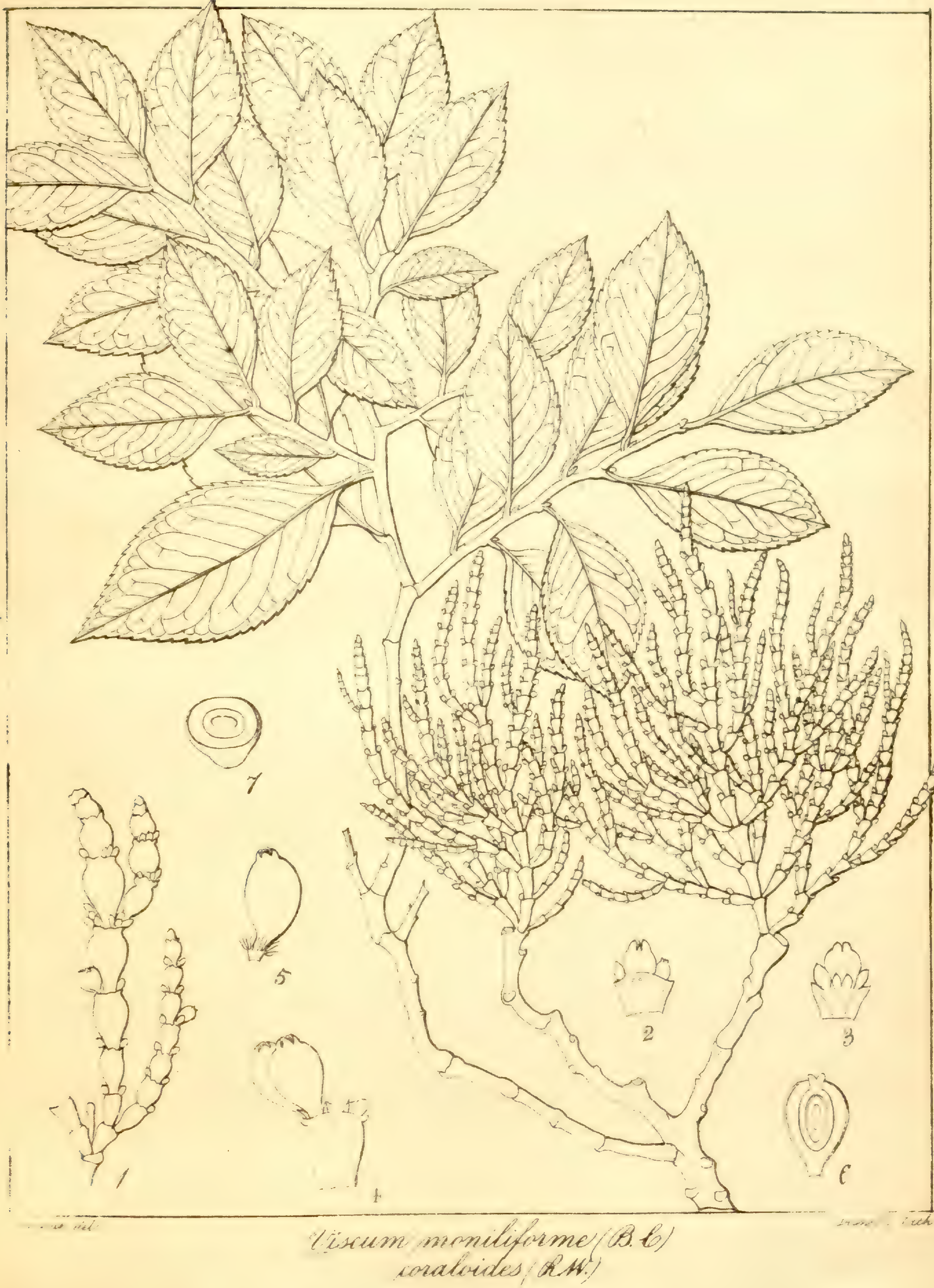
Dumphy, Lith.

Viscum ramossissimum (Wall)



Rungiah, del.

Viscum moniliforme (B.C.)



Viscum moniliforme (B. C.)
coraloides (R. W.)

Rungiah del. Dumphy, Lith.

Loranthus Neilgherrensis.

Rungiah del. Dunphy, lith.

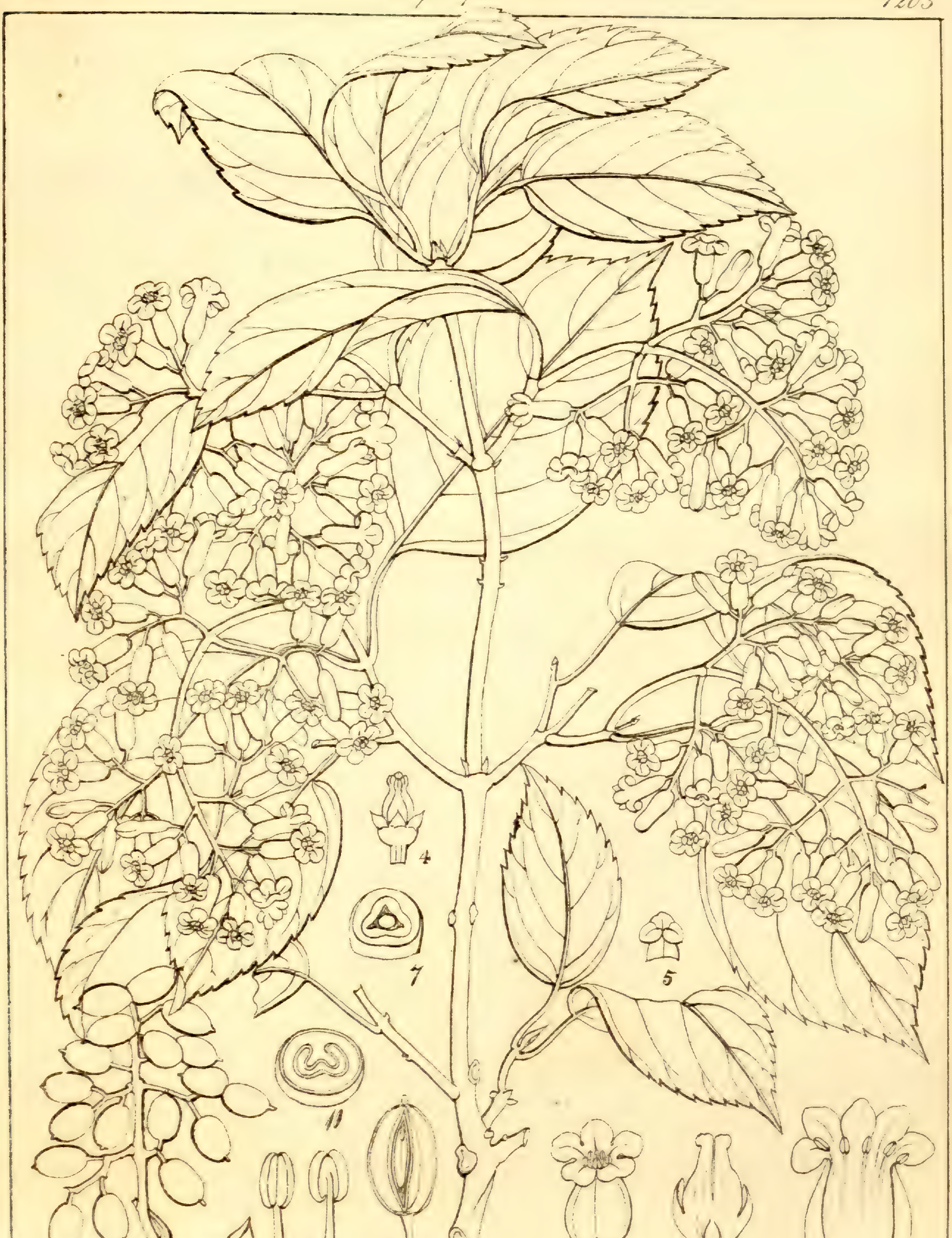
Viburnum acuminatum (Wall)

Rungiah, del. Dunphy lith.

Viburnum capitellatum (W.&A.)

Rungiah, del.

Viburnum hebanthum, W.&A.



Rungiah, del. Dumphy lith.

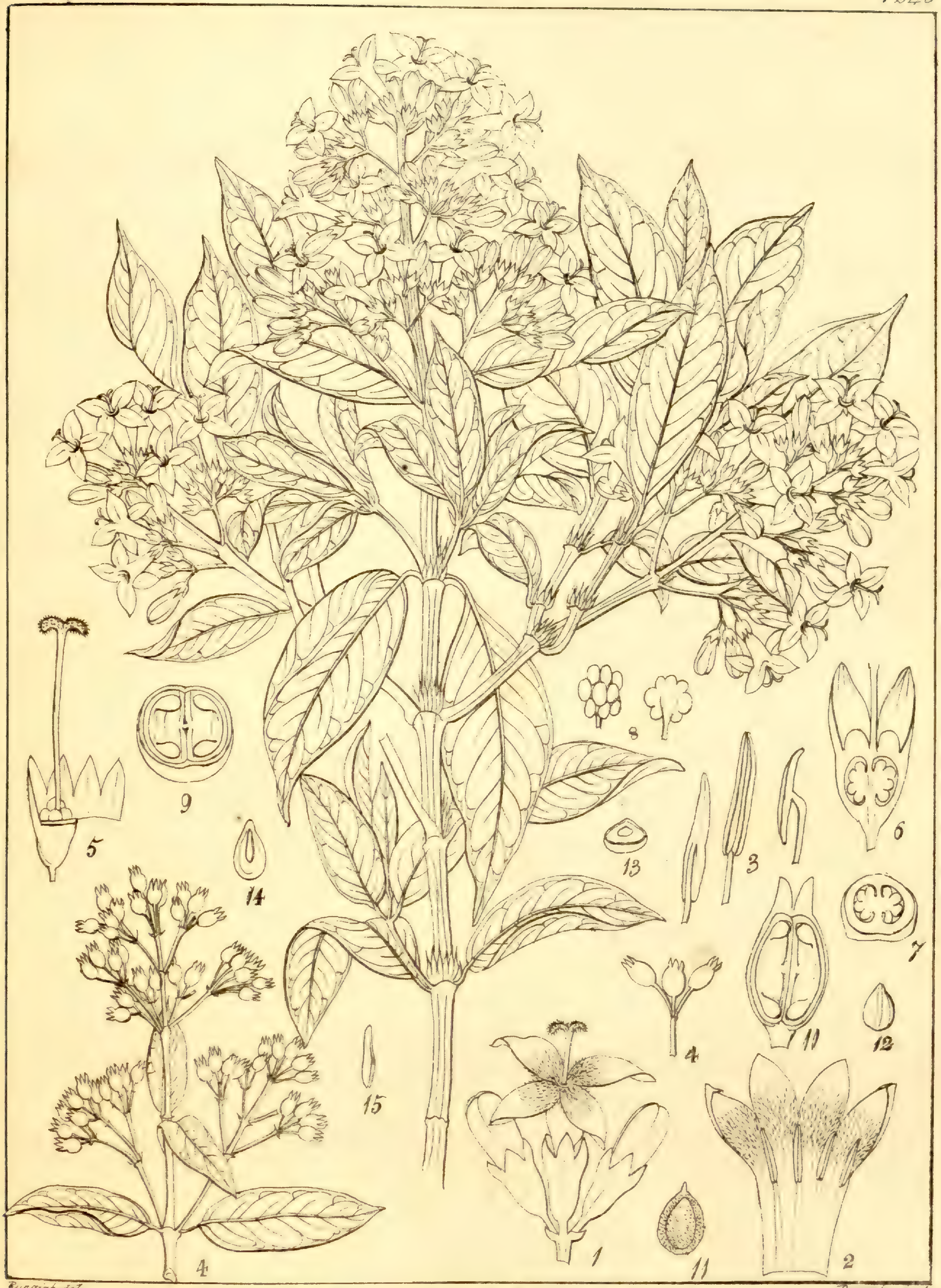
Viburnum Wightianum (Wall)

Dunphy, Lith.

Lonicera (X) ligustrina (Wall.)

Rungiah, del. Dumphy, Lith.

Hedyotis (D) Lawsoniæ (W&A)

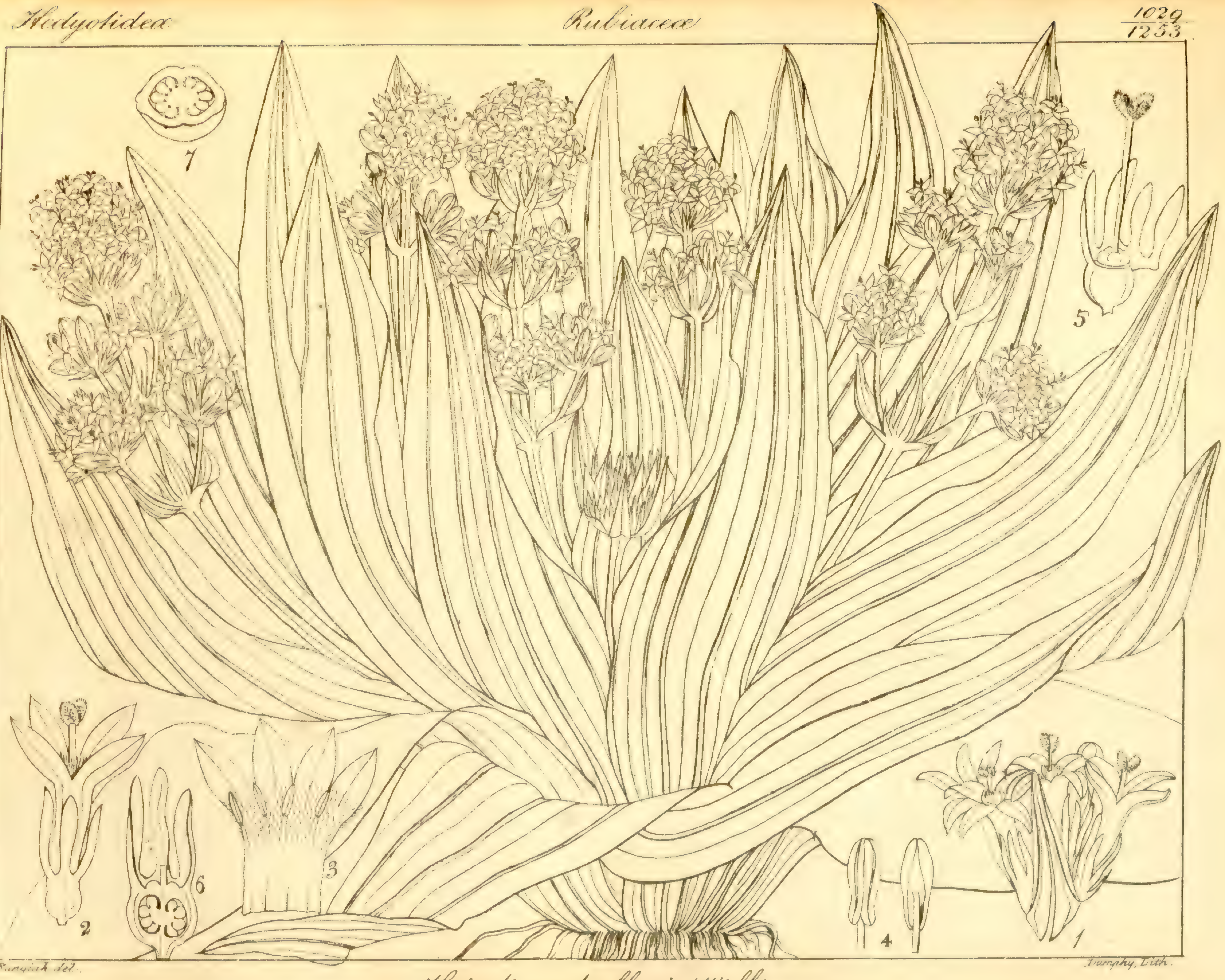


Rungiah, del. Dumphy lith.

Hedyotis (D.) stylosa (Brown)

Rungiah del. Dumphy, Lith.

Hedyotis articularis (R.B.)



Rungiah del. Dumphy, Lith.

Hedyotis verticellaris (Wall)

Rungiah del.

Hedyotis (A) affinis (W & A)

Rangiah del. Dunphy, Lith.

Hedyotis (A) monosperma (W&A)

Rungiah del. Dumphy, Lith

Lasianthus venulosa (R.W.)
Tantia venulosa (W. & A.)

Dumphy, Lith.

Wendlandia Notoniana (Wall)

Rungiah del. Dumphy, Lith.

Canthium umbellatum (R.W.)

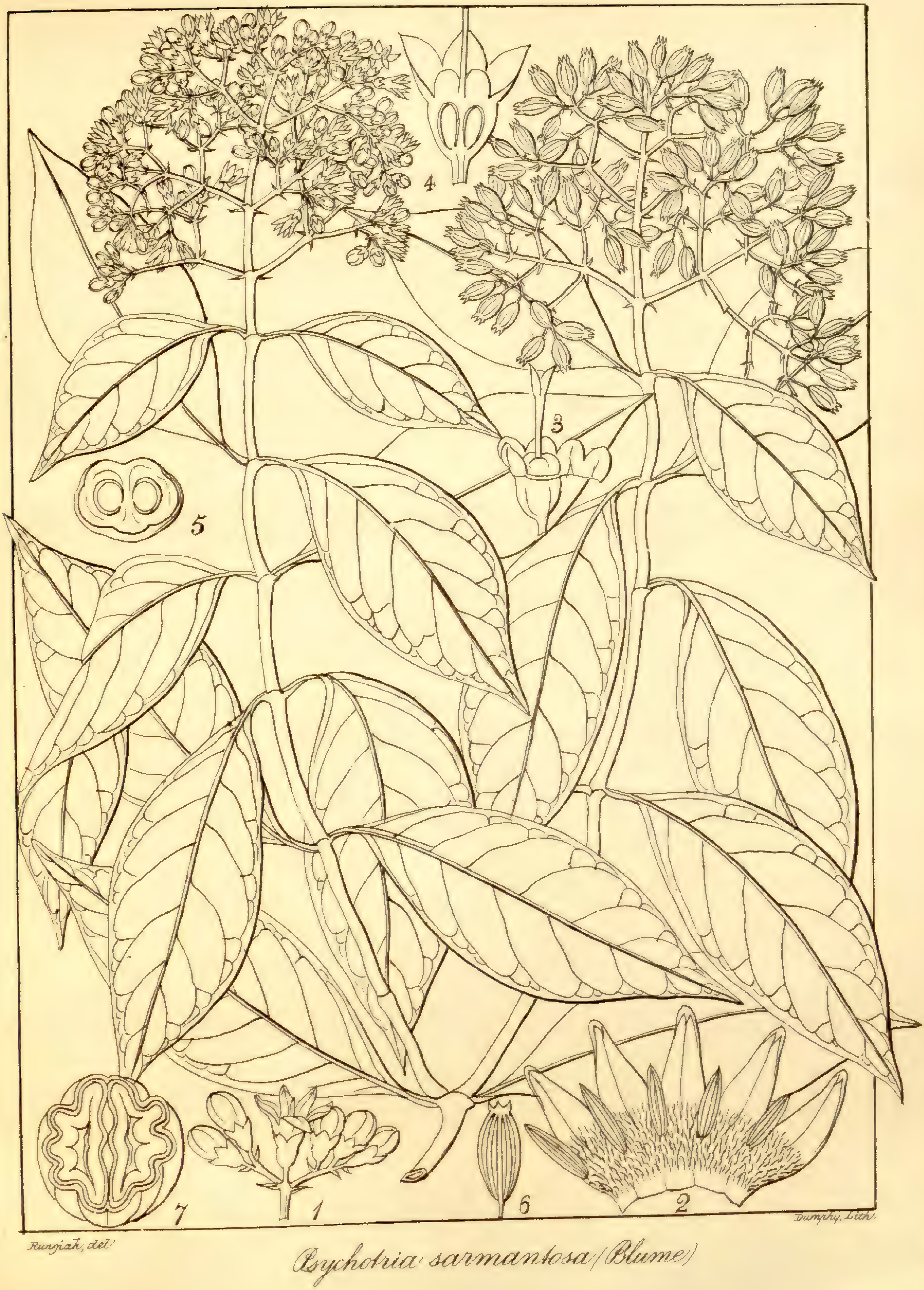
Rungiah del. Dumphy Lith.

Pavetta breviflora. (D.C.)

Grumelia elongata (R.W.)

Rungiah del. Dunphy Lith.

Grumilea congesta (W & A)



Runjiah, del. Dunphy, Lith.

Psychotria sarmantosa (Blume)

Rungiah del. Dumphy lith.

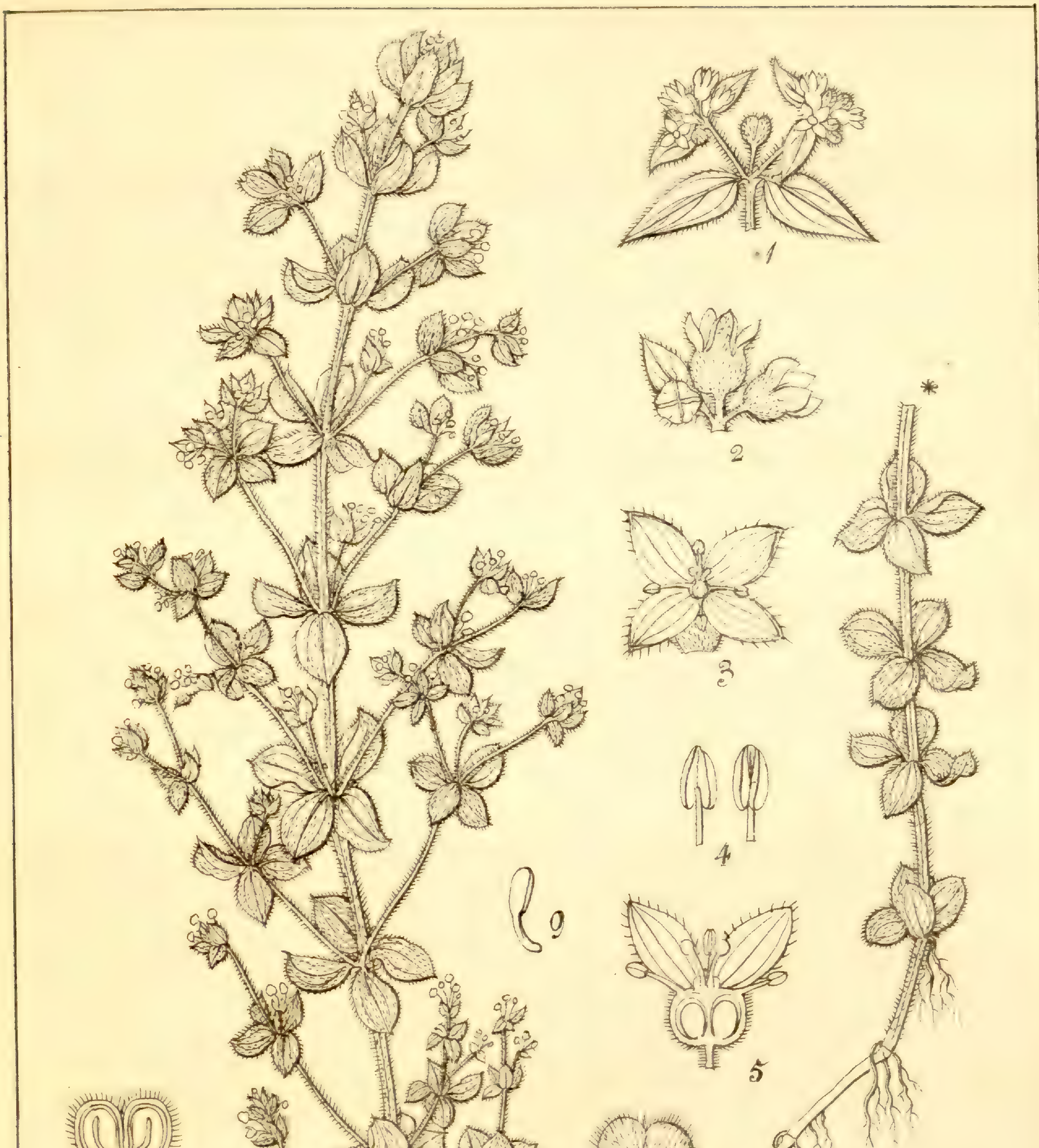
Psychotria bisulcata (W. & A.)

[R]angiah del. Dumphy, Lith.

Coffea alpestris, (R.W.)

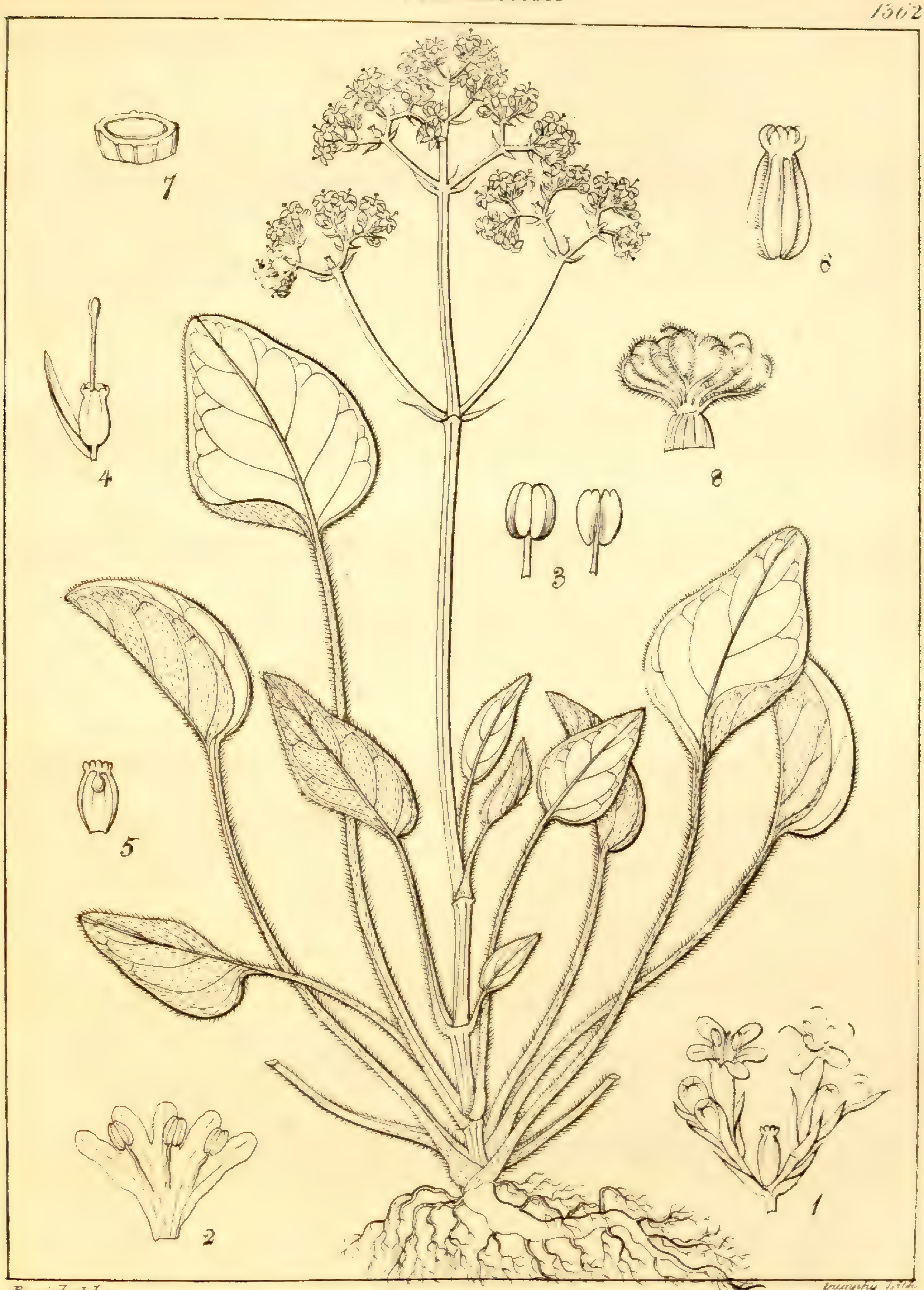
Rungiah del. Dumphy, Lith.

Coffea grumelioides, (R.W.)



Rungiah, del Dumphy, Lith

Galium Requienianum (W & A)

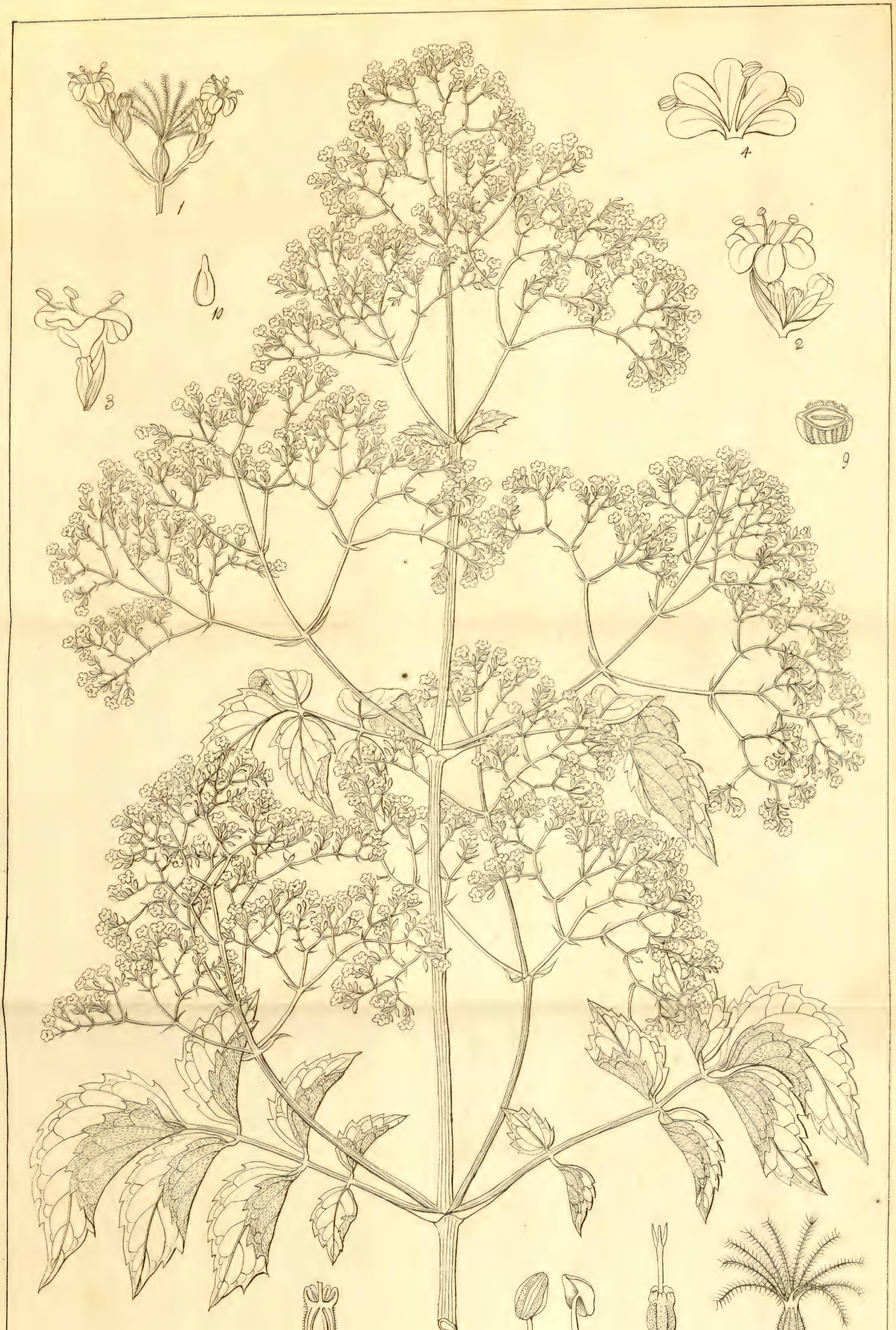


Rungiah, del. Dumphy, Lith.

Valeriana Brunoniana (W & A)

Rungiah, del. Dumphy, Lith.

Valeriana Leschenaultii (DC)



Rungiah del. Dunphy Lith.

Valeriana arnottiana. (R. W.)

Rungiah, del. Dumphy, Lith.

Capparis pyrifolia (Lam)

Rungiah, del. Dumphy, Lith.

Capparis Roxburghii (D.C.)

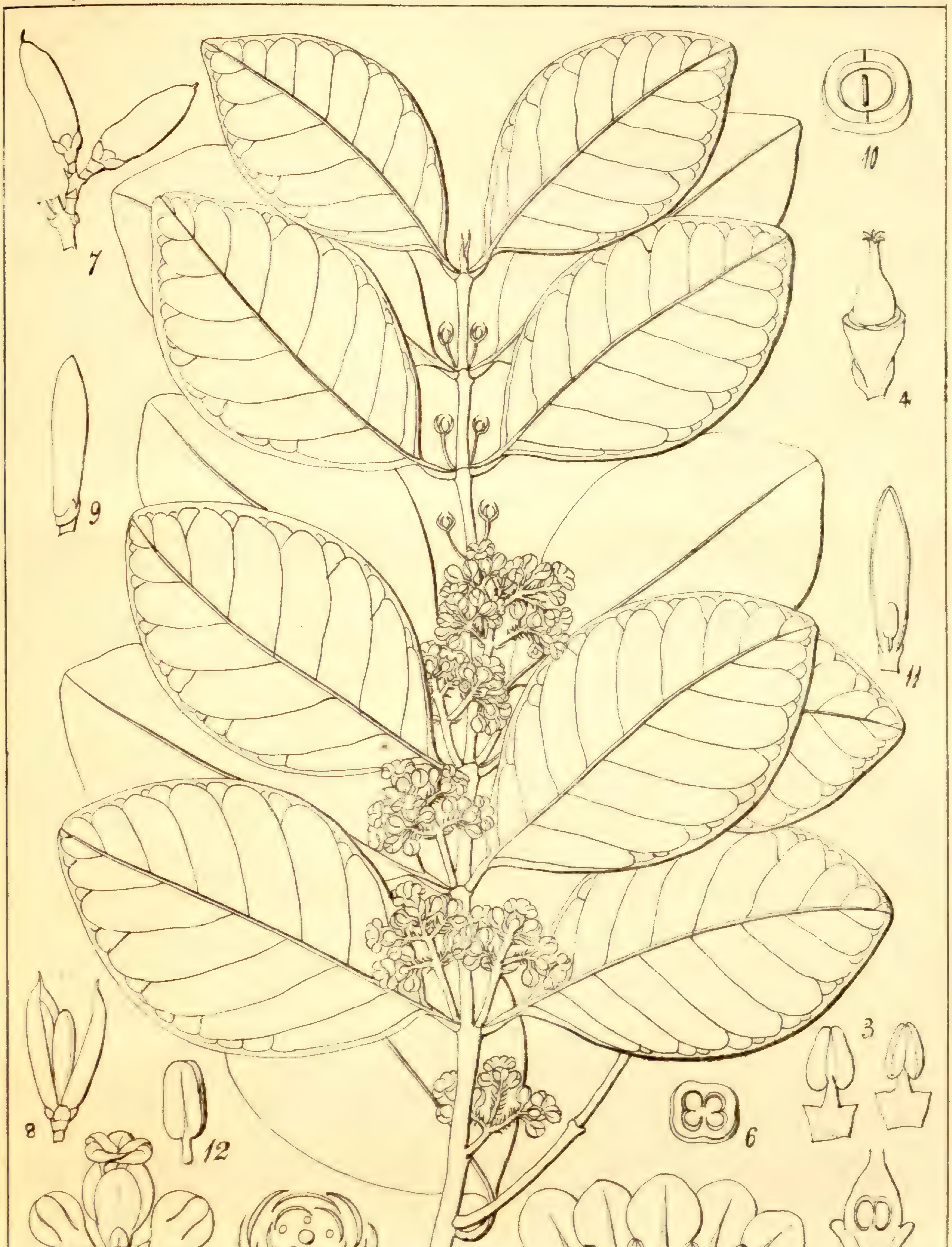
Dumphy, Lith.

Impatiens munronii (R. W.)

Impatiens Gardneriana (R.W.)

Rungiah, del. Dumphy, Lith.

Melicope indica (R.W.)

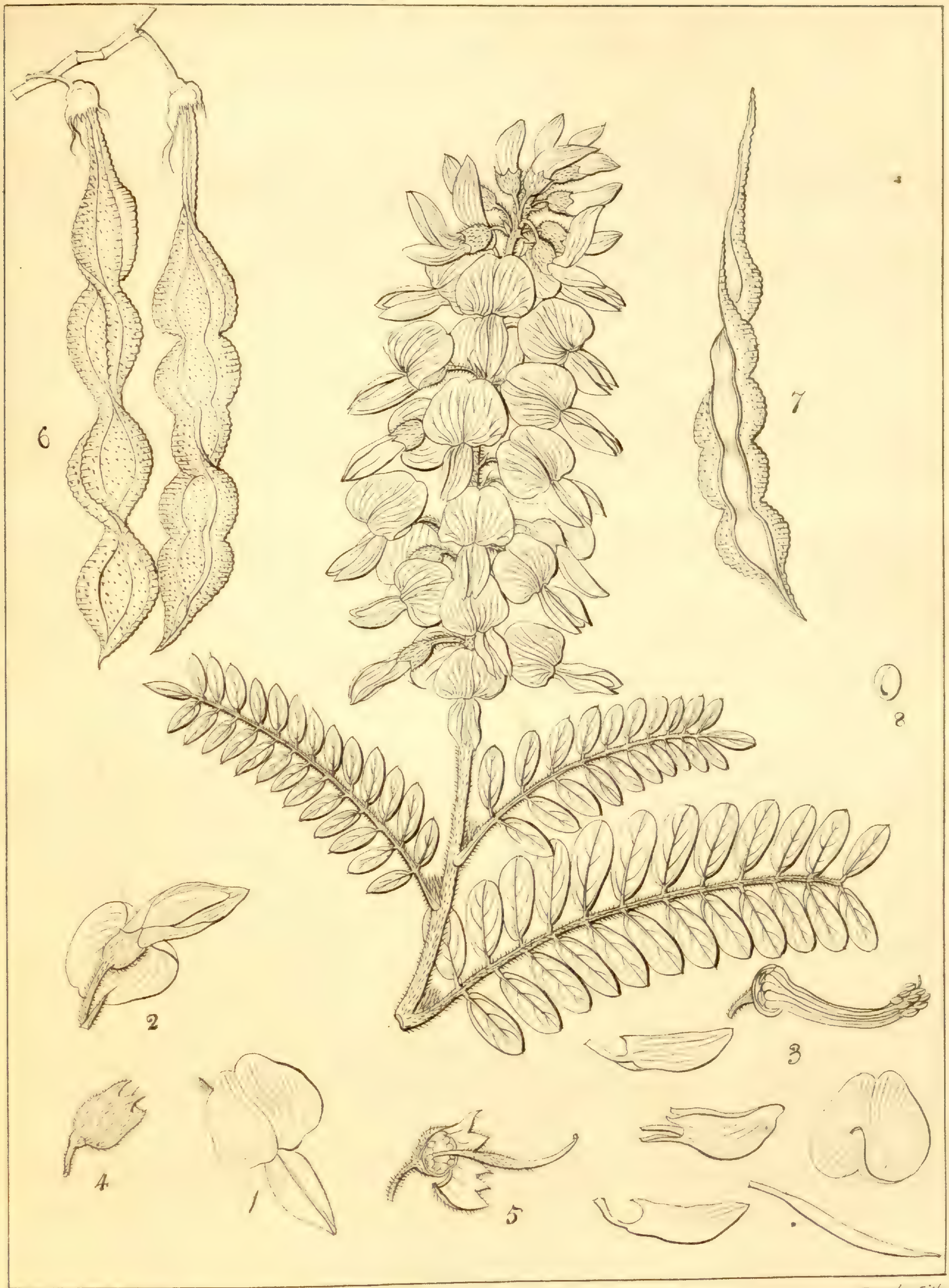


Rungiah, del. Dumphy Lith.

Microtropis densiflora (R. W.)

Runguah del. Dumphy, Lith.

Euonymus angulatus (R.W.)

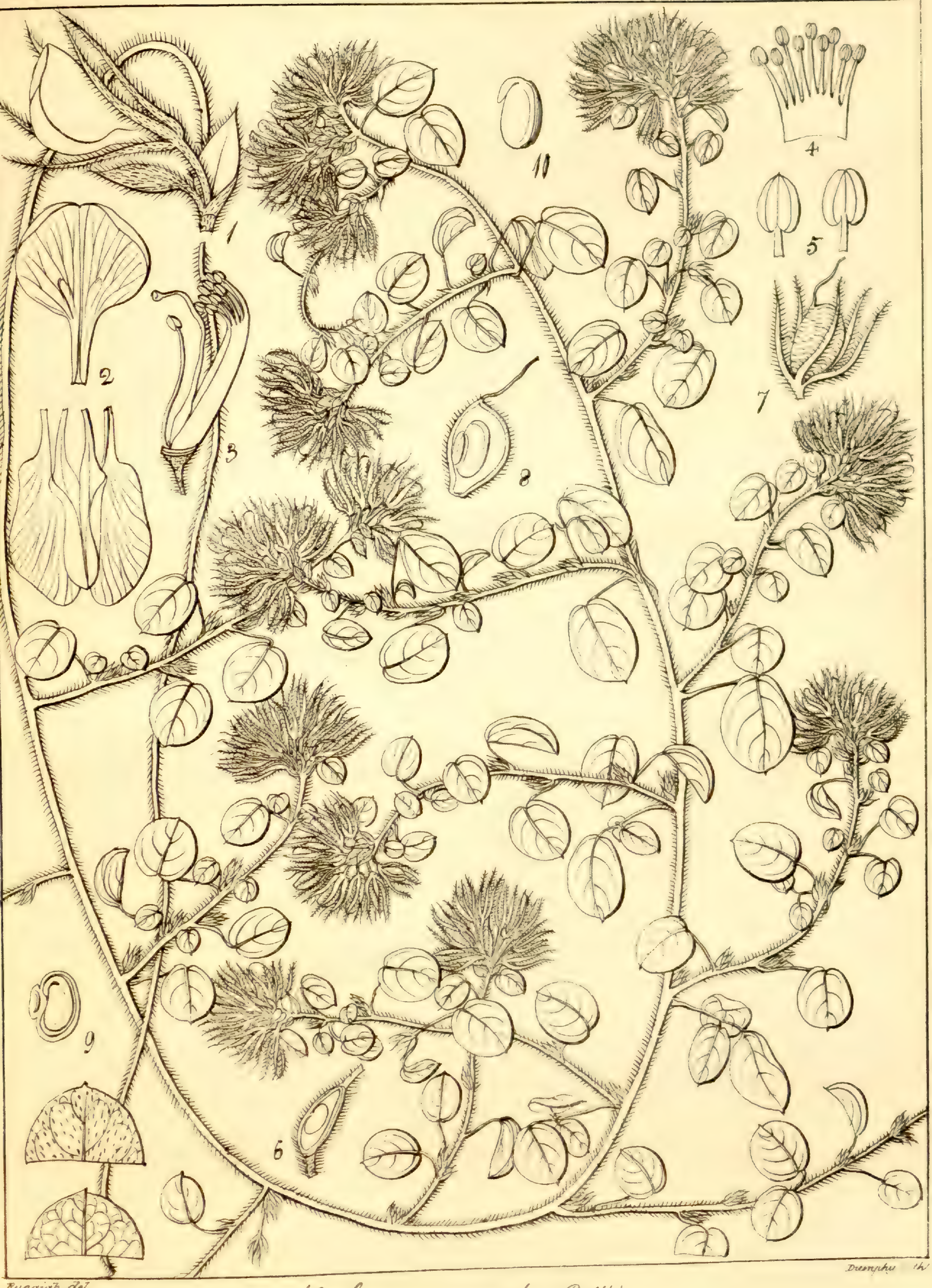


Gehman Singie, del. Dumphy, Lith.

Edwardsia madraspatana (R.W.)

Lechman Singie, del. Dunphy, Lith

Taverniera cuniefolia

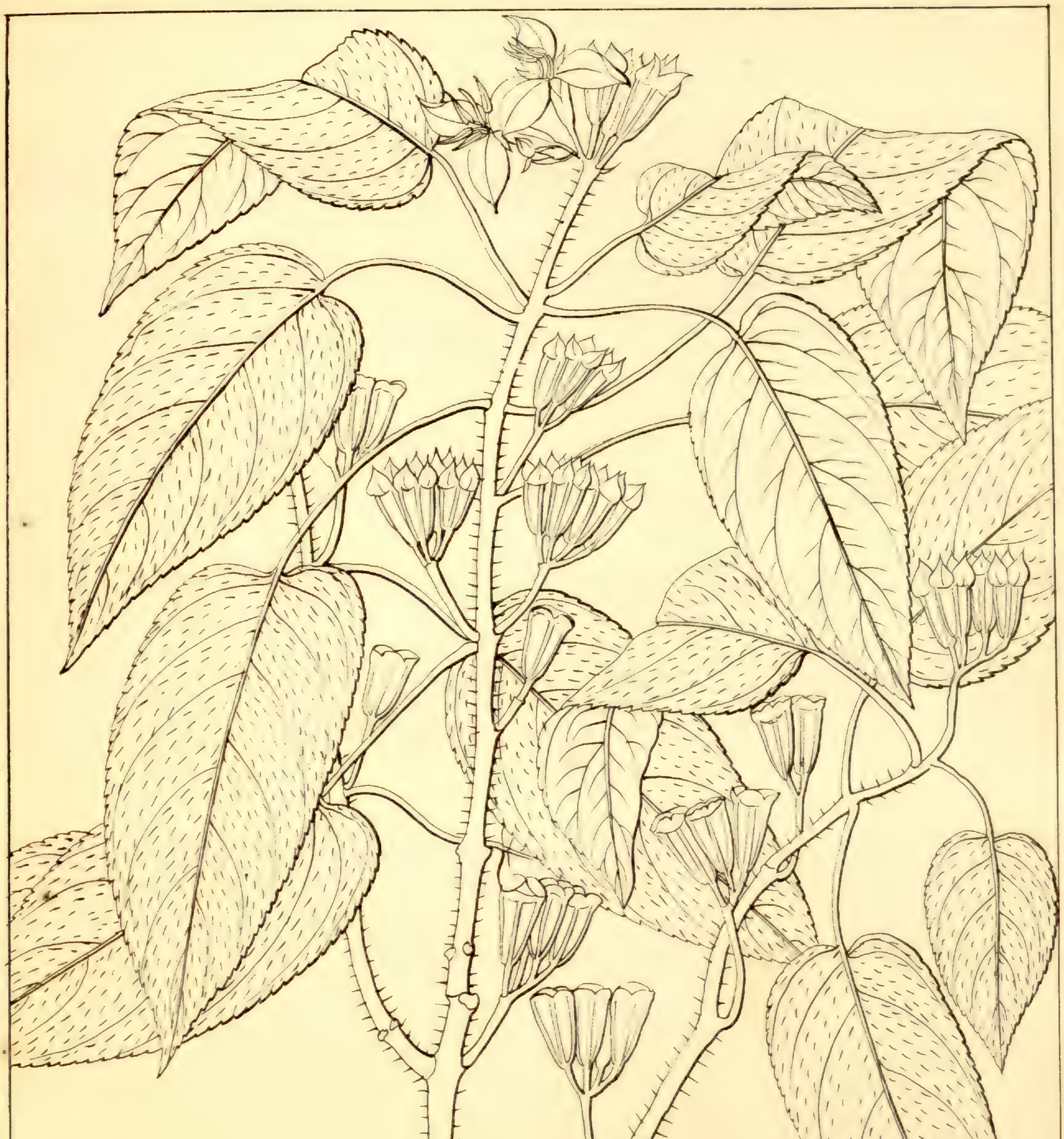


Rungiah, del. Dumphy lith.

Nicolsonia congesta (R.W.)

Rungiah, del. Dumphy, Lith.

Sonerila versicolor (R. W.)



Rungiah, del. Dumphy, Lith.

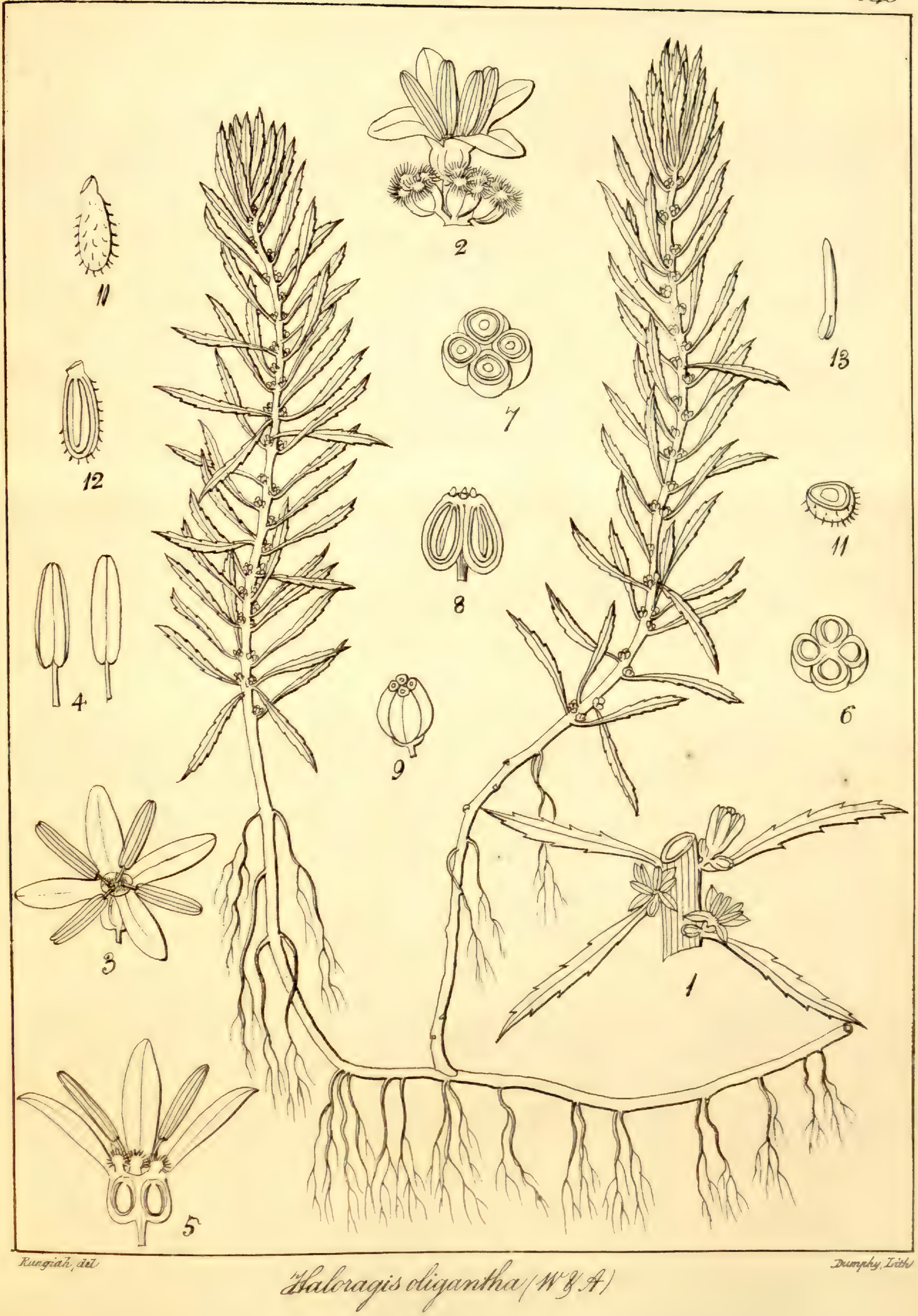
Sonerila axillaris (R. W.)

Rungiah, del. Dumphy, Lith.

Sonerila Brunonis (W. & A.)

Rungiah Del. Dumphy Lith

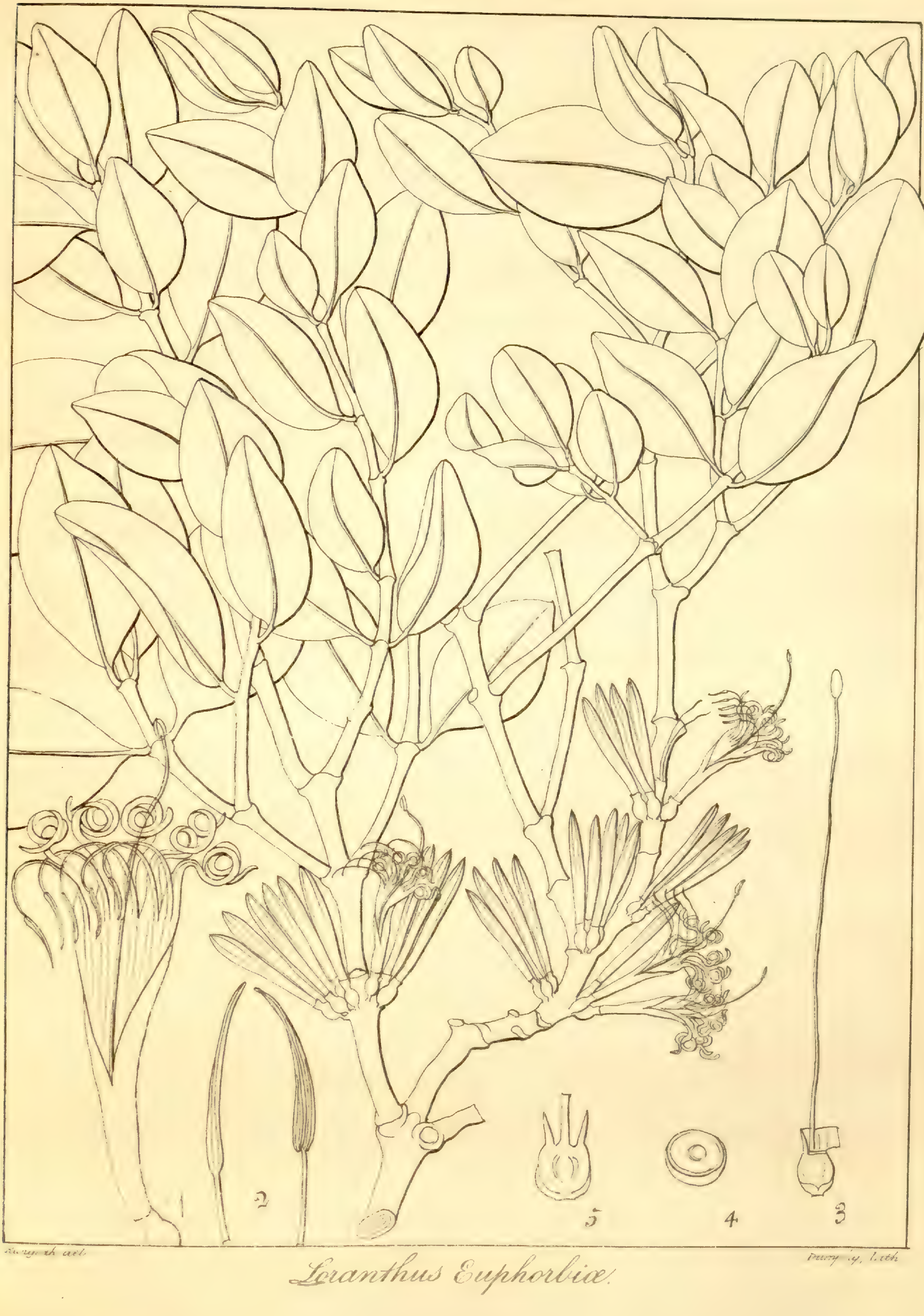
Eugenia (S) montana (R.W.)



Rungiah, del. Dumphy, Lith.

Haloragis oligantha (W & A)

Hedera acuminata (R.W.)



[illegible] del. [illegible] Lith

Loranthus Euphorbiæ.

Dumphy, lith

Stylocoryne rigida, R.W.

Canthium neilgherrense (R. W.)

Rungiah, del. Dumphy Lith.

Pavetta Brunonis

Rungiah, del.

Dumphy, lith.

Ixora polyantha (R.W.)

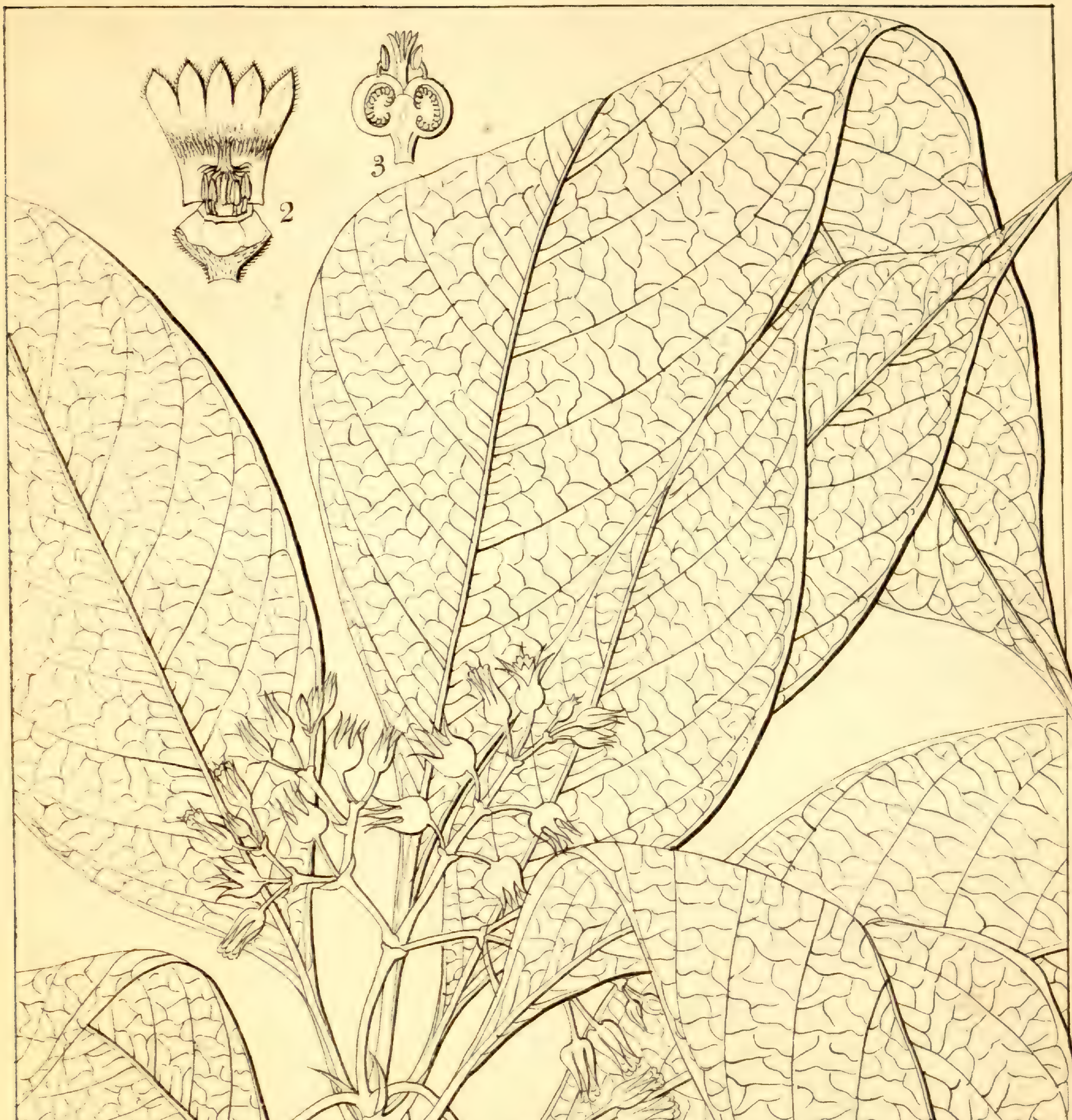
Rungiah; del. Dunphy, lith.

Ophiorrhiza eriantha (R.W.)

Rungiah del. Dumphy lith.

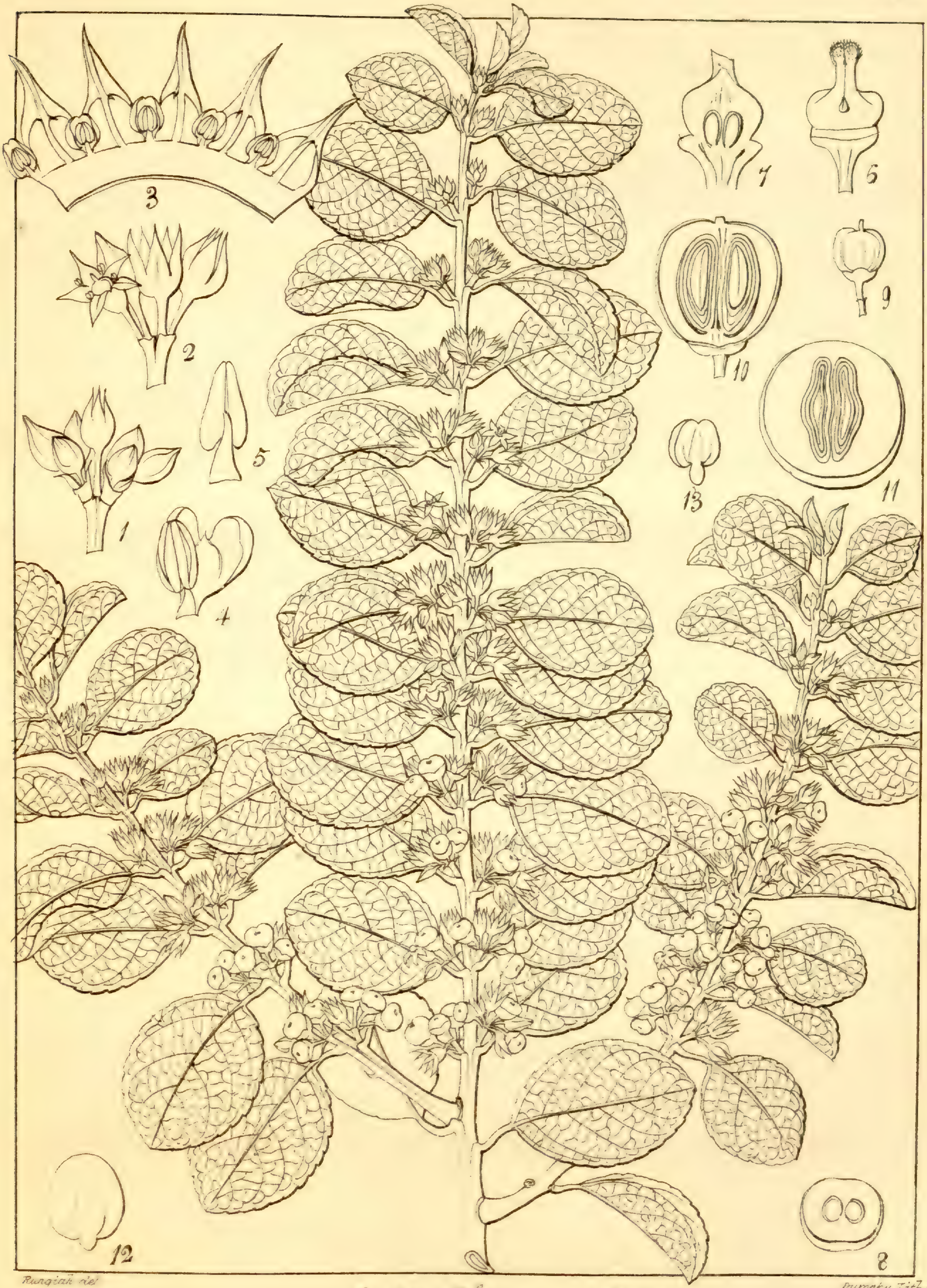
Ophiorrhiza Roxburghiana, (R.W.)

Ophiorhiza grandiflora. R.W.



Rungiah Del Dumphy Lith

Lawia acuminata (R.W.)



Rungiah del. Dumphy Lith.

Scutia Rheediana (R.W.)

Gopalchunder, del. Dunphy, Lith.

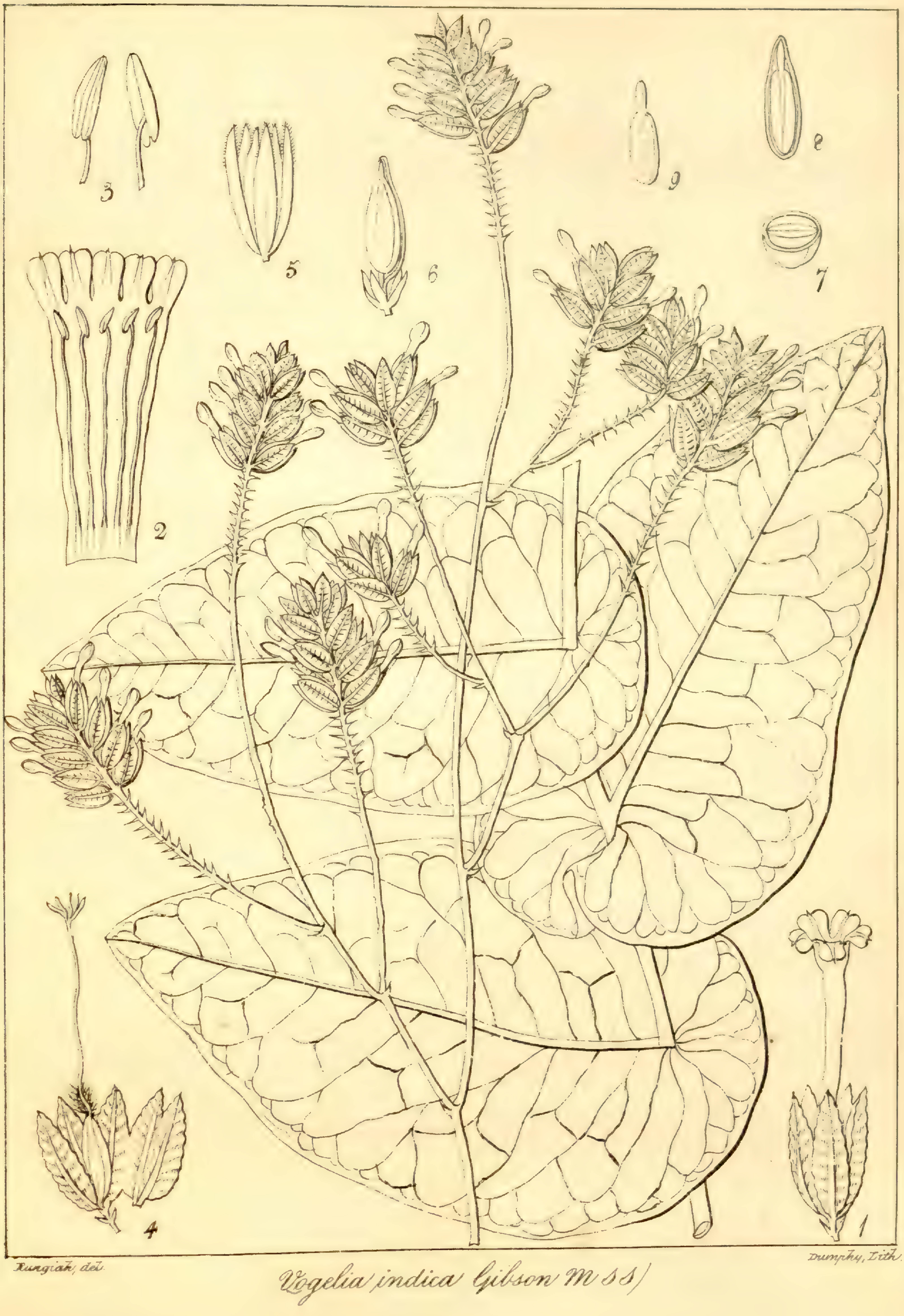
Polanisia Burtporensis (Munro)

Rungiah; del Dunphy Lith

Corchorus humilis (Munro)

Gopalchunder, del. Dunphy, Lith.

Erodium chumbulense (Munro)



Rungiah, del. Dunphy, Lith.

Vogelia indica Gibson MSS.

Rungiah del. Dumphy Lith.

Vernonia conyzoides, D.C.

Rungiah, del. Dumphy, Lith.

Vernonia pectiniformis (D.C.)

Rungiah. del. Dumphy. Lith

Vernonia Neilgherryensis (D.C)

Rungiah, del. Dumphy, Lith.

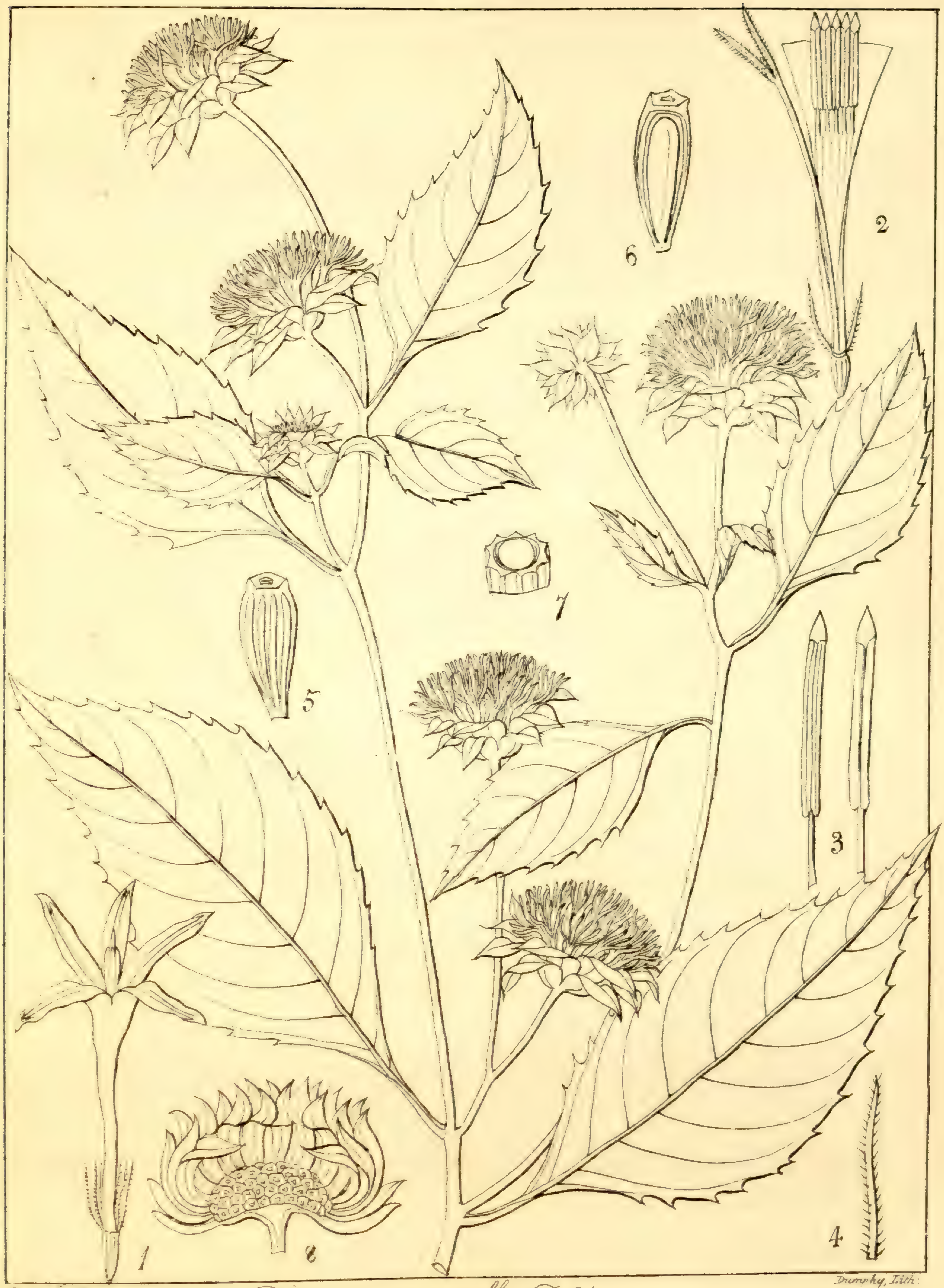
Vernonia salvifolia (R.W.)

Kungerh, del. Dunphy, Lith.

Decaneurum reticulatum (D.C.)

Dunphy. Lith

Decaneurum courtalense (R.W.)

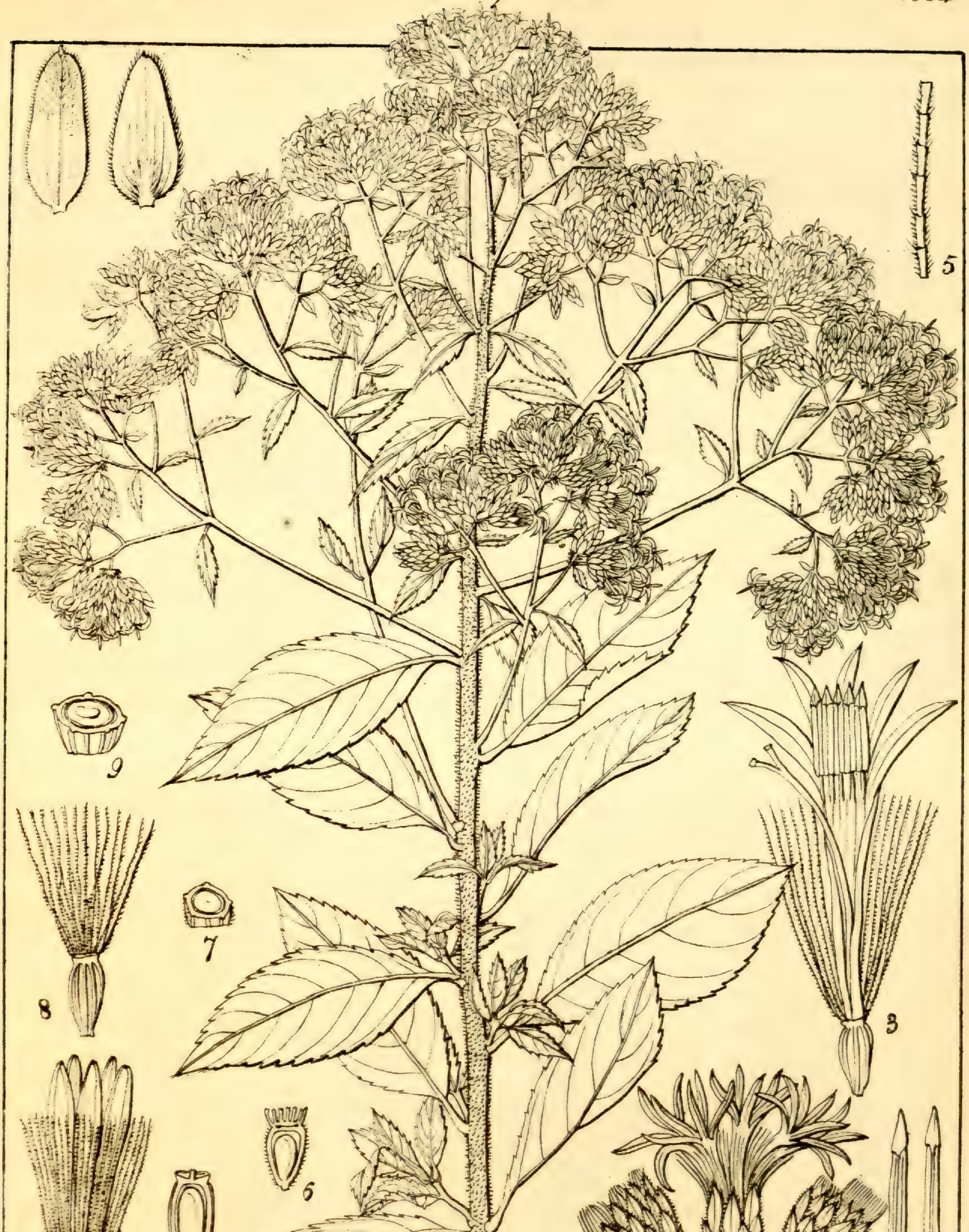


Rungiah del. Dumphy, Lith.

Decaneurum molle (D.C.)
d Epileium

[illegible], del — Dumphy, Lith

Decaneurum silhetense (D.C)



Rungiah, del. Dunphy. Lith.

Decaneurum divergens (D.C.)

Rungiah, del. Dunphy, Lith.

Monosis Wightiana

Rungiah, del. Dumphy, Lith.

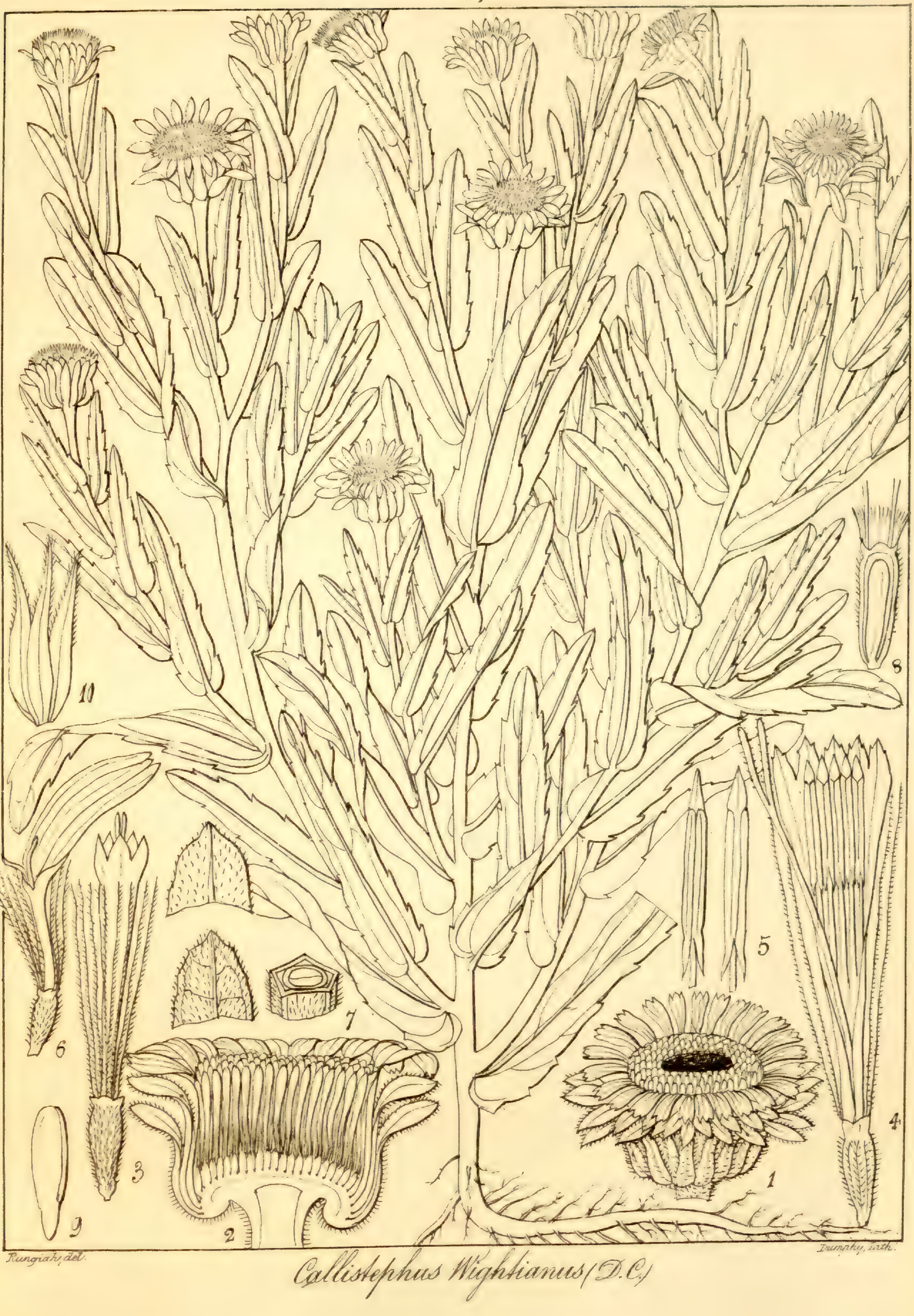
Elephantopus scaber (Lin.)

Rungiah del. Dumphy, Lith.

Adenonstemma latifolium (D.C.)

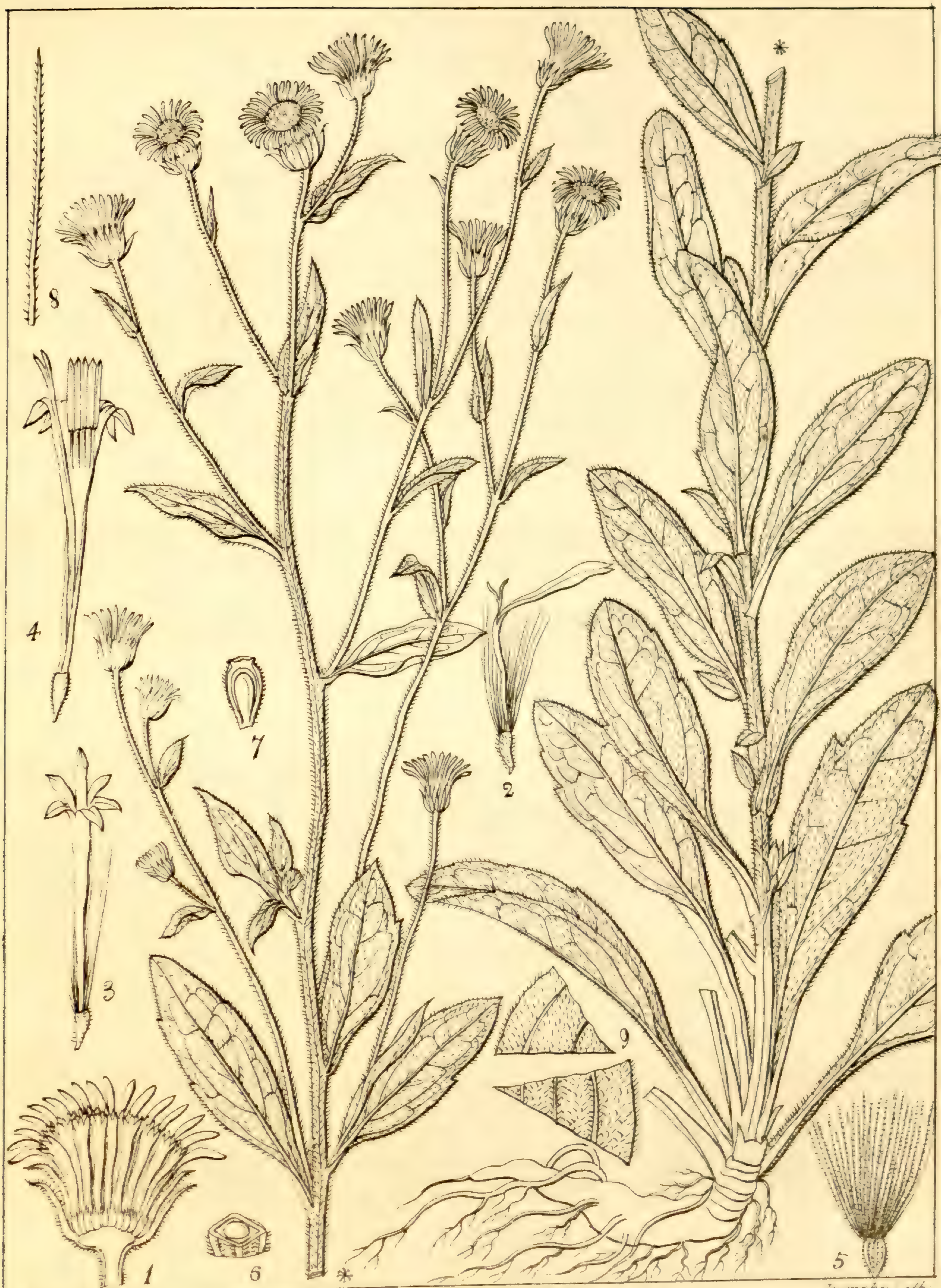
Rungiah, del. Dunphy, Lith.

Adenostemma reticulatum (D.C)



Rungiah, del. Dumphy, lith.

Callistephus Wightianus (D.C.)



Erigeron Wightii (D.C.)

Rungiah, del. Dumphy, lith.

Myriactis Wightii (D.C.)

Rungiah, del. Dumphy, Lith.

Blepharispermum petiolare (D.C.)

Rungiah del. Dumphy Lith.

Blepharispermum subsessile (D.C.)

Rungiah, Del. Dunphy, Lith.

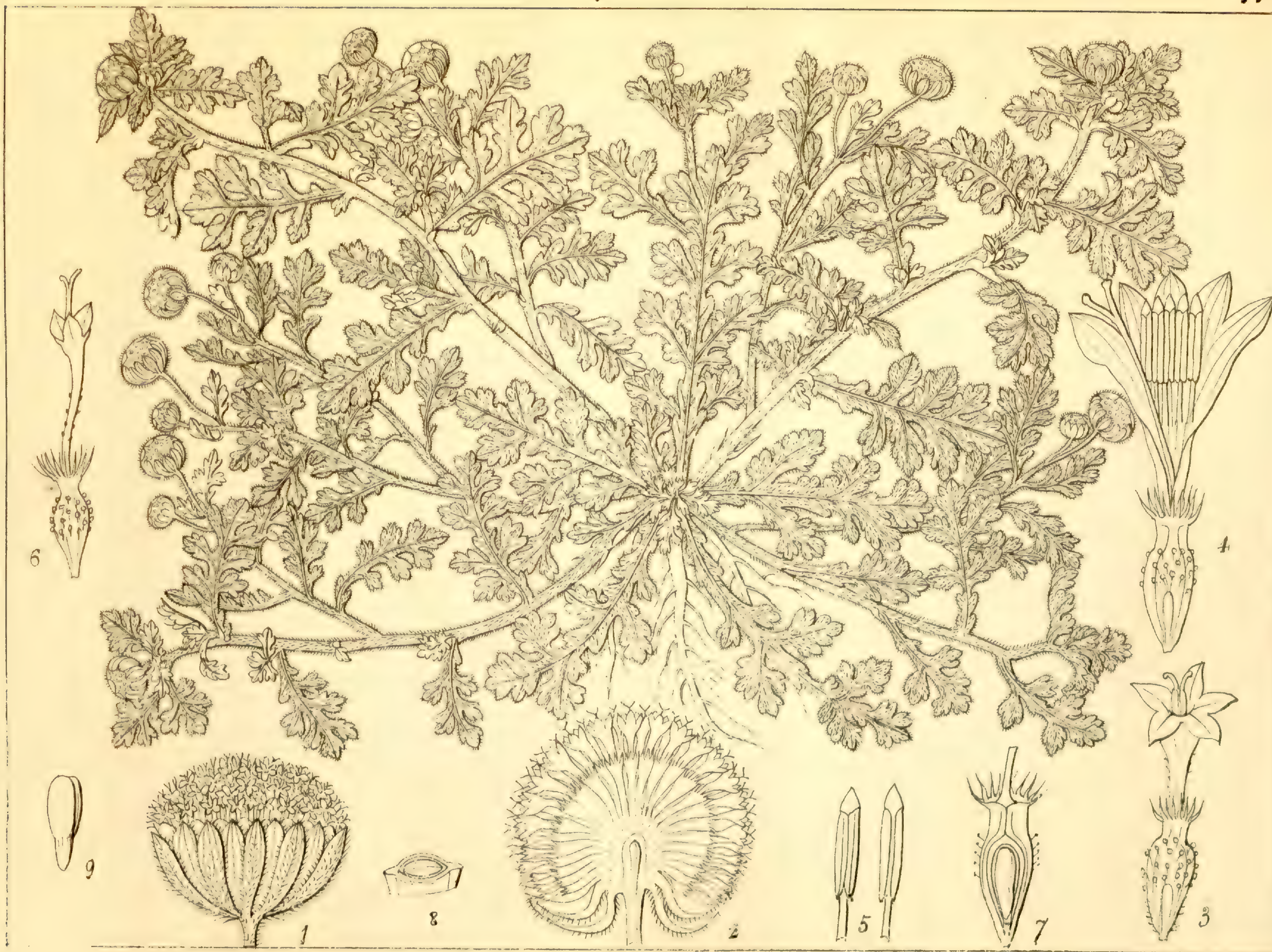
Sphæranthus hirtus (Willd)

Rungiah del. Dumphy Lith.

Dichrocephala chrysanthemifolia (D.C.)

Rungiah, del. Dumphy, lith.

Dichrocephala latifolia (D.C.)



Dunphy, Lith.

Grangea Madraspatana (Roir.)

Rungiah, del. Dumphy, Lith.

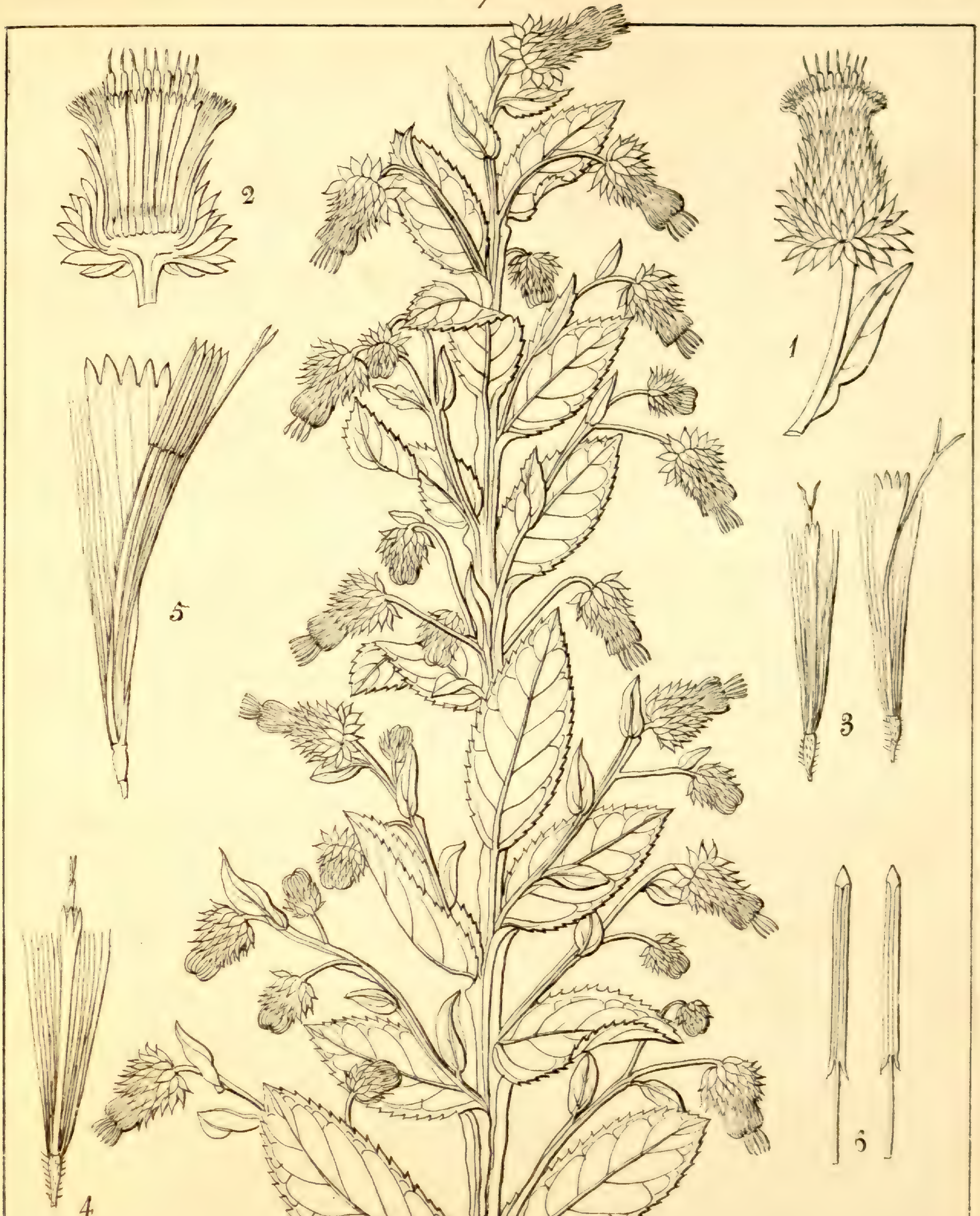
Cyathocline lyrata (D.C.)

Rungiah/del. Dumphy, Lith.

Blumea hieracifolia (D.C.)

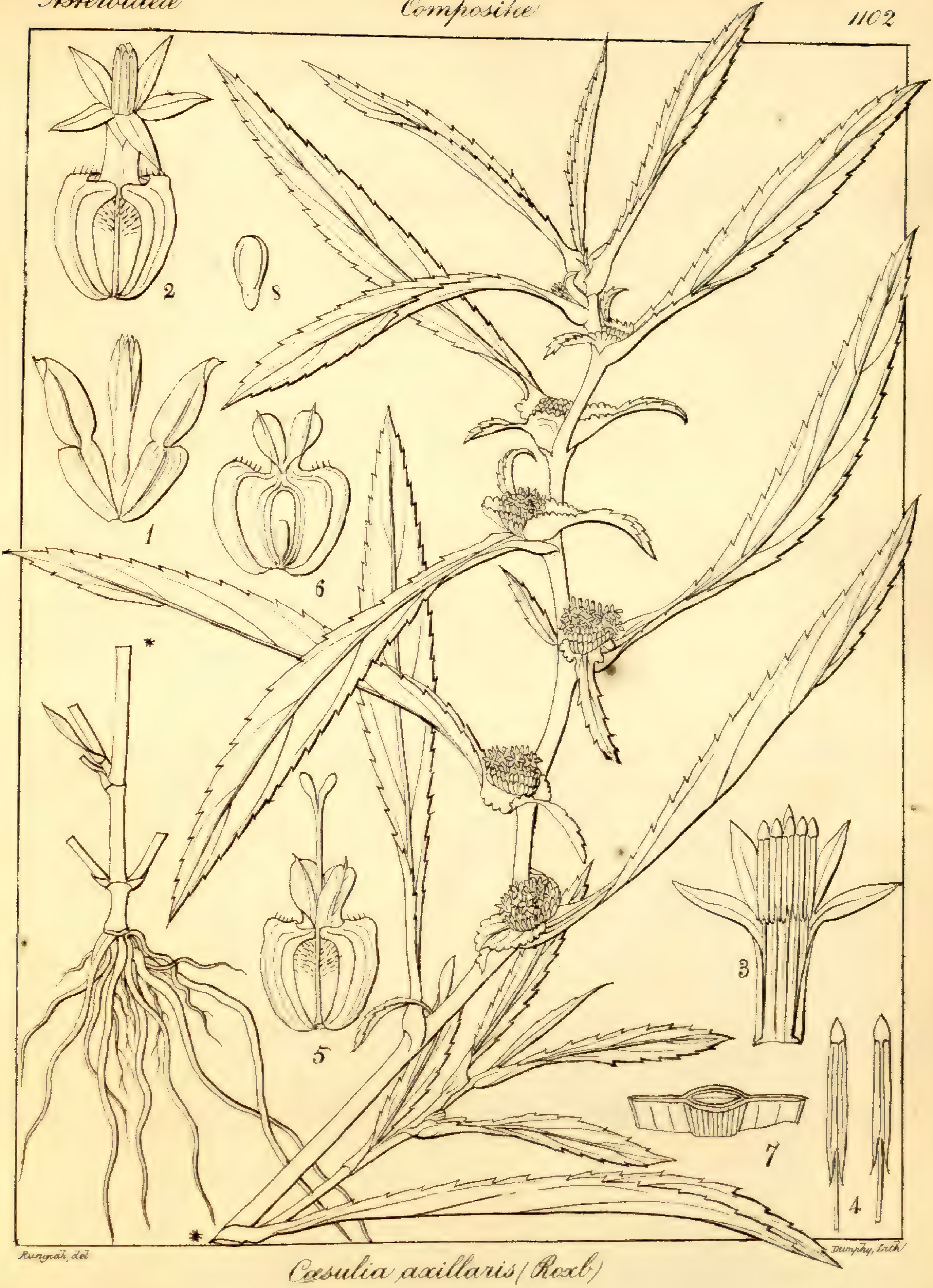
Rungiah, del. Dunphy, Lith.

Blumea pterodonta (D.C.)



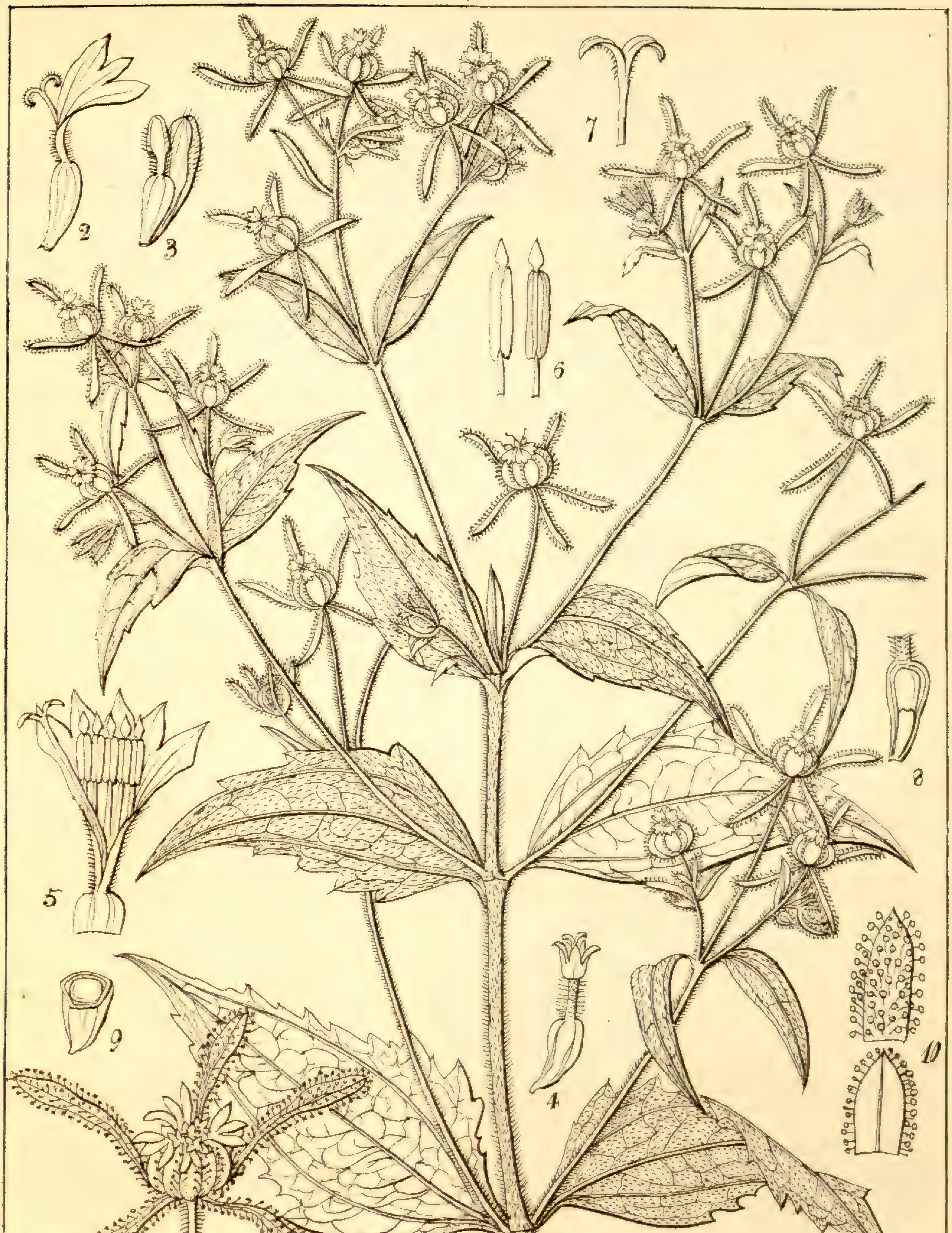
Rungiah, del. Dumphy, Lith.

Blumea alata (D.C.)
B. cernua



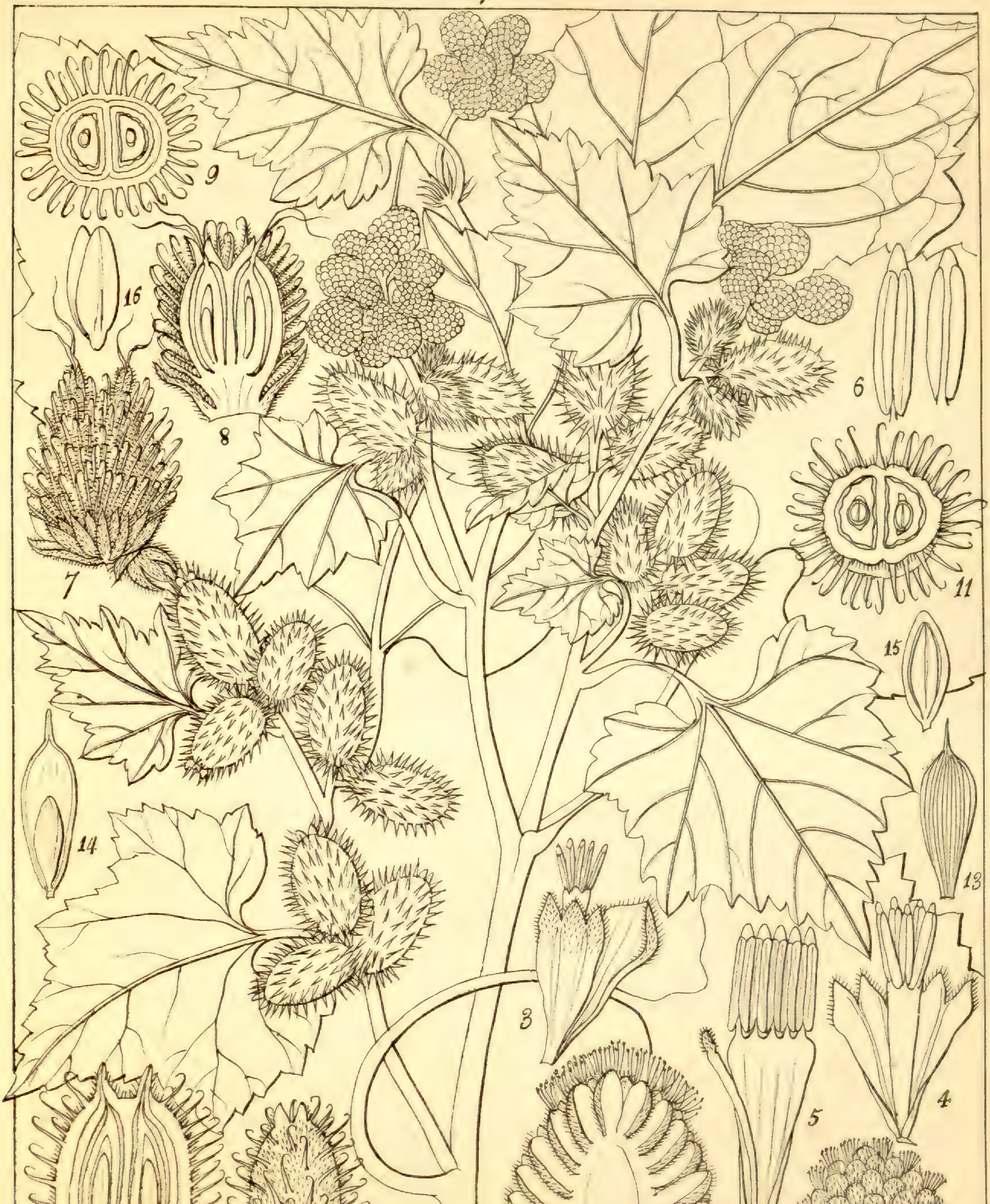
Rungiah, del. Dumphy, Lith.

Cæsulia axillaris (Roxb)



Rungiah del. Dumphy Lith.

Siegesbeckia orientalis (Lin.)



Rungiah, del. Dumphy, Lith.

Xanthium Indicum (Roxb.)

Rungiah del. Dumphy Lith.

Moonia Arnottiana. (R. W.)

Rungiah Del. Dumphy Lith.

Wedelia urticæfolia (D.C.)

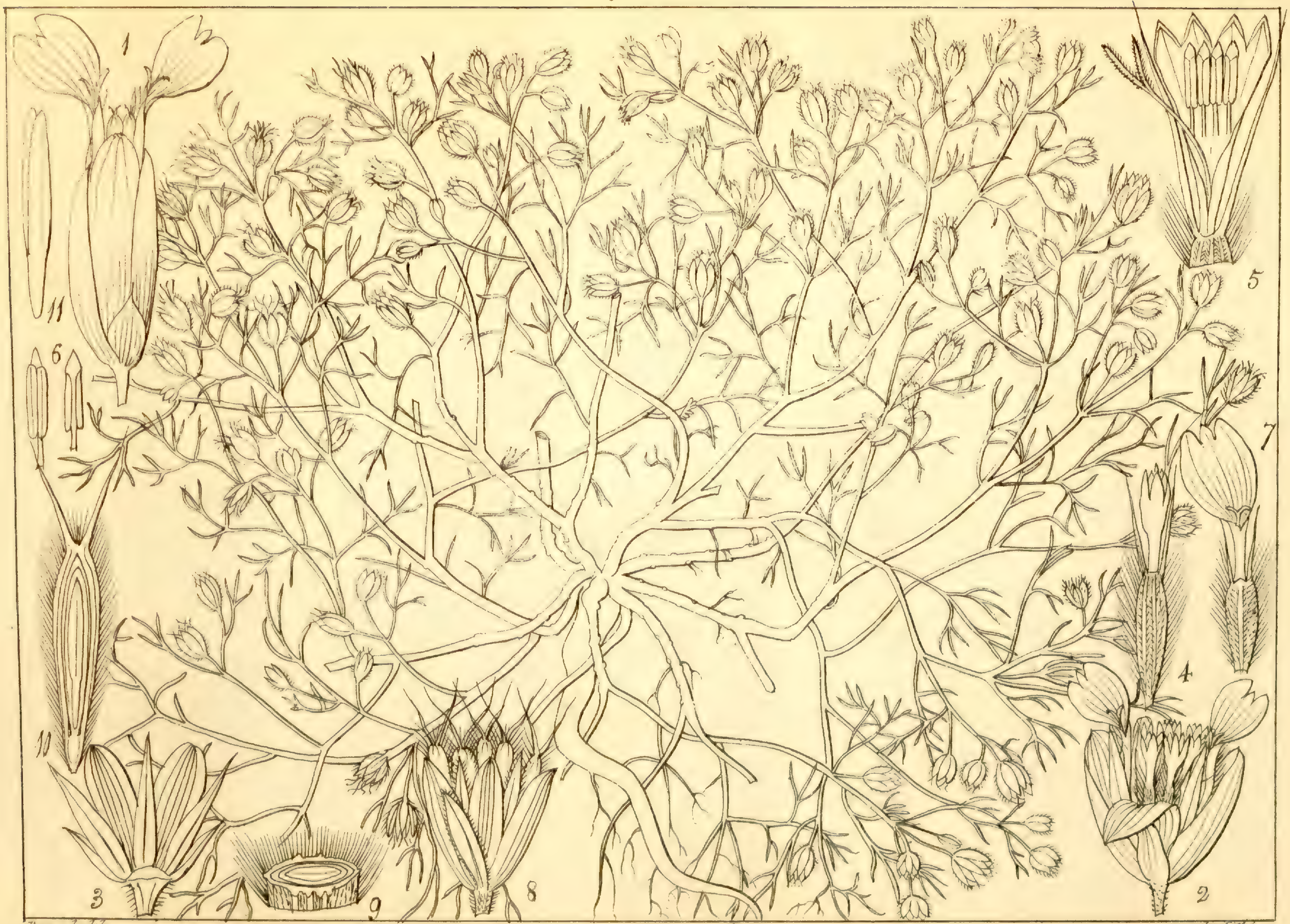
Rungiah del. Dumphy Lith.

Wedelia calendulacea (Less.)

Rungiah, del. Dumphy, Lith.

Wollastonia biflora (D.C.)

Spilanthes calva (D.C.)
E.S. Oleracea (Jacq.)



Rungiah, del. Dunphy, Lith.

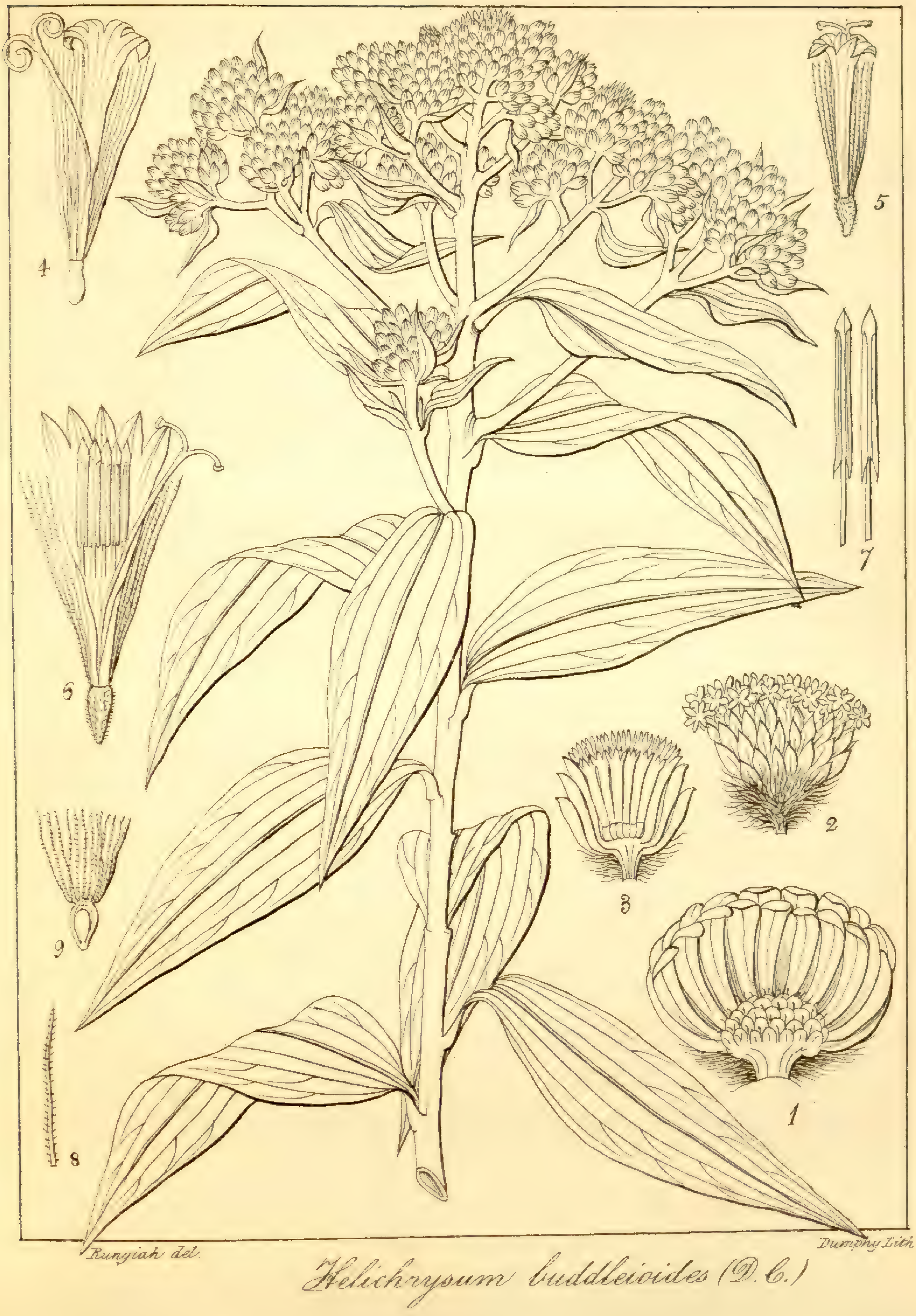
Glossocardia Boswallea (D.C.)

Rungiah, del. Dumphy Lith

Artemisia glabrata (Wall)

Bungiah, del. Dumphy lith.

Artemisia Indica (Willd.)

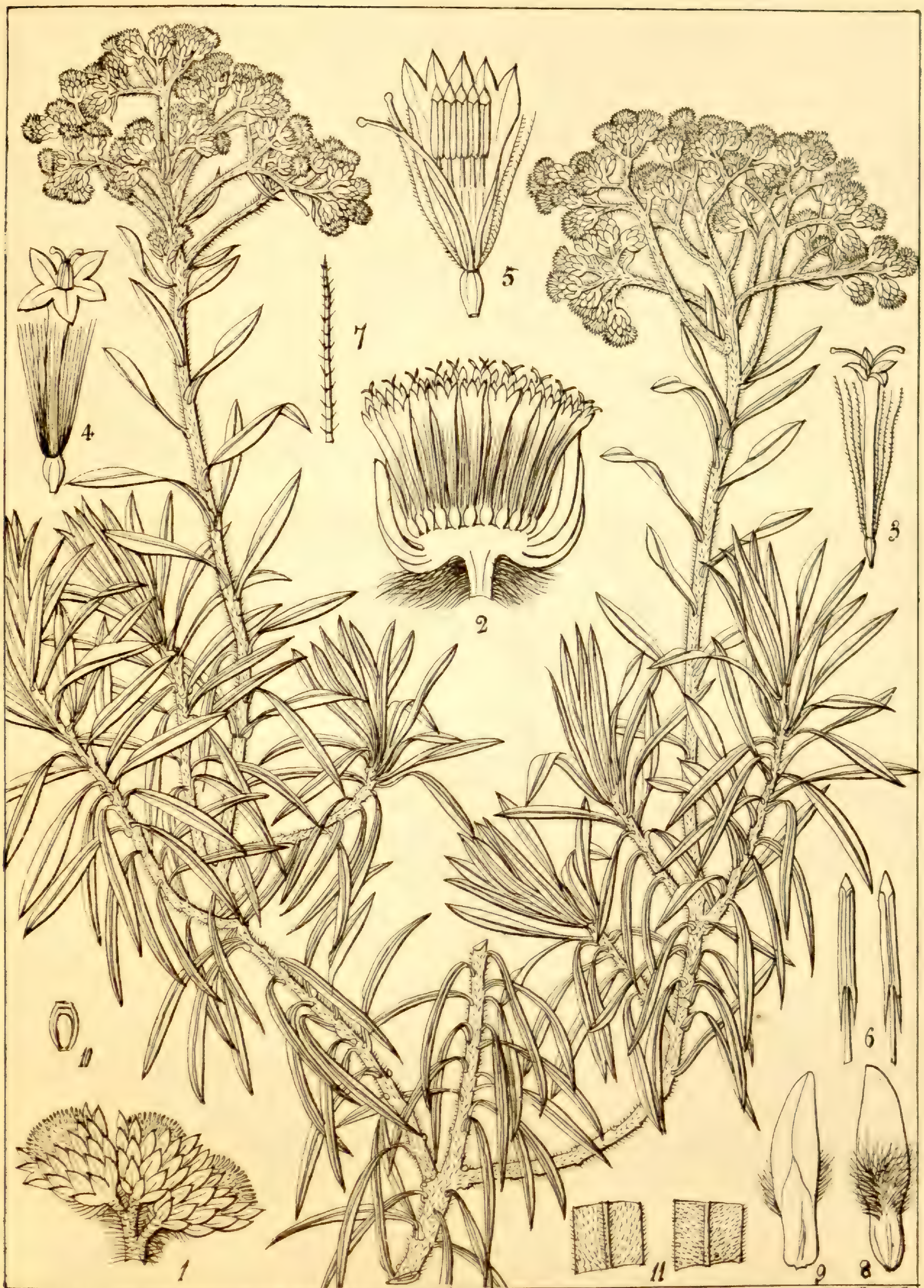


Rungiah del. Dumphy Lith.

Helichrysum buddleioides (D.C.)

Rungiah del. Dumphy Lith.

Gnaphalium hypoleucum (D.C.)



Rungiah, del. Dumphy, lith.

Gnaphalium marcenscens (R. W.)

Rungiah, del. Dumphy, Lith.

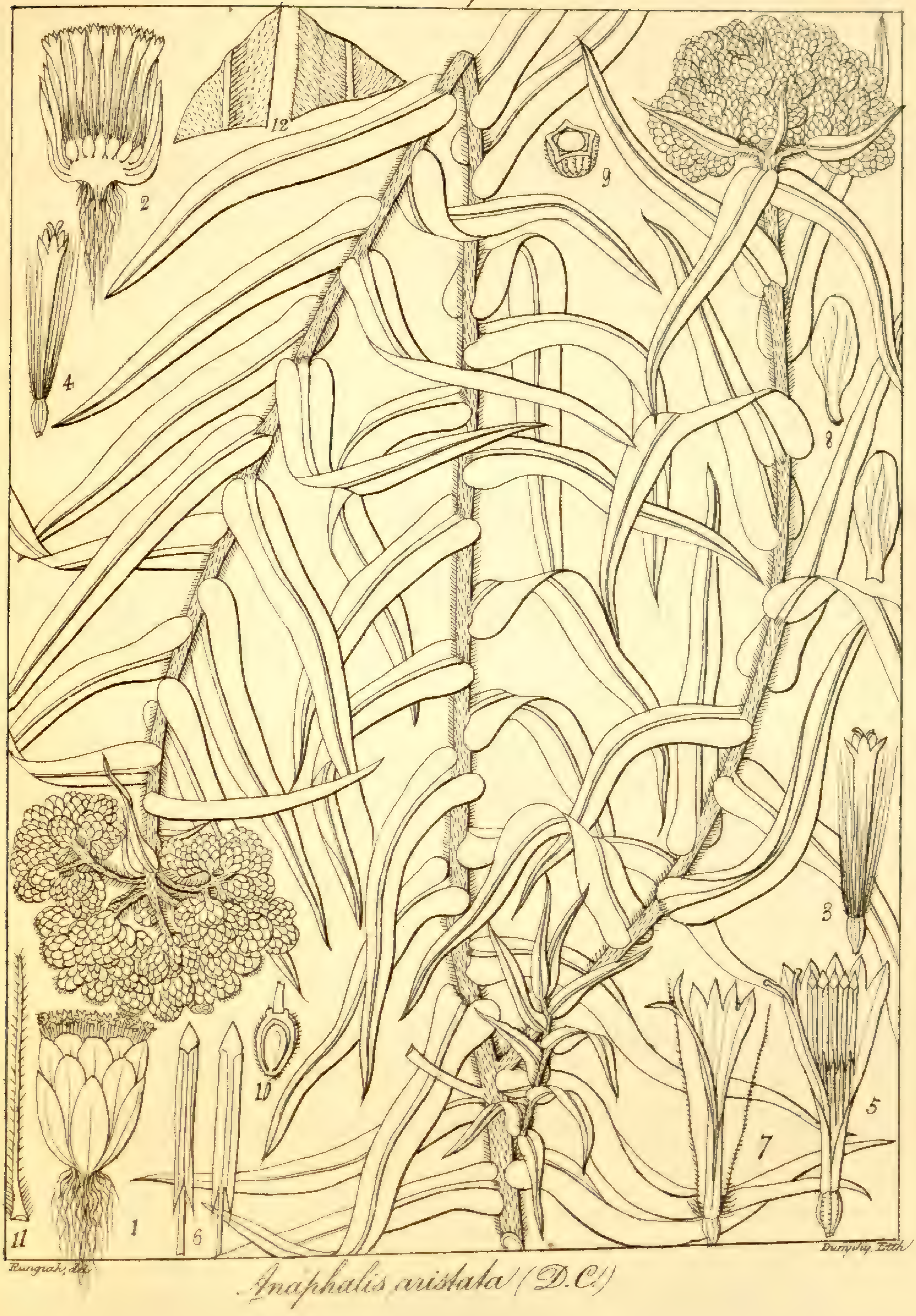
Anaphalis Notoniana (D.C.)

Rungiah, del. Dumphy, Lith

Anaphalis Wightiana (D.C.)

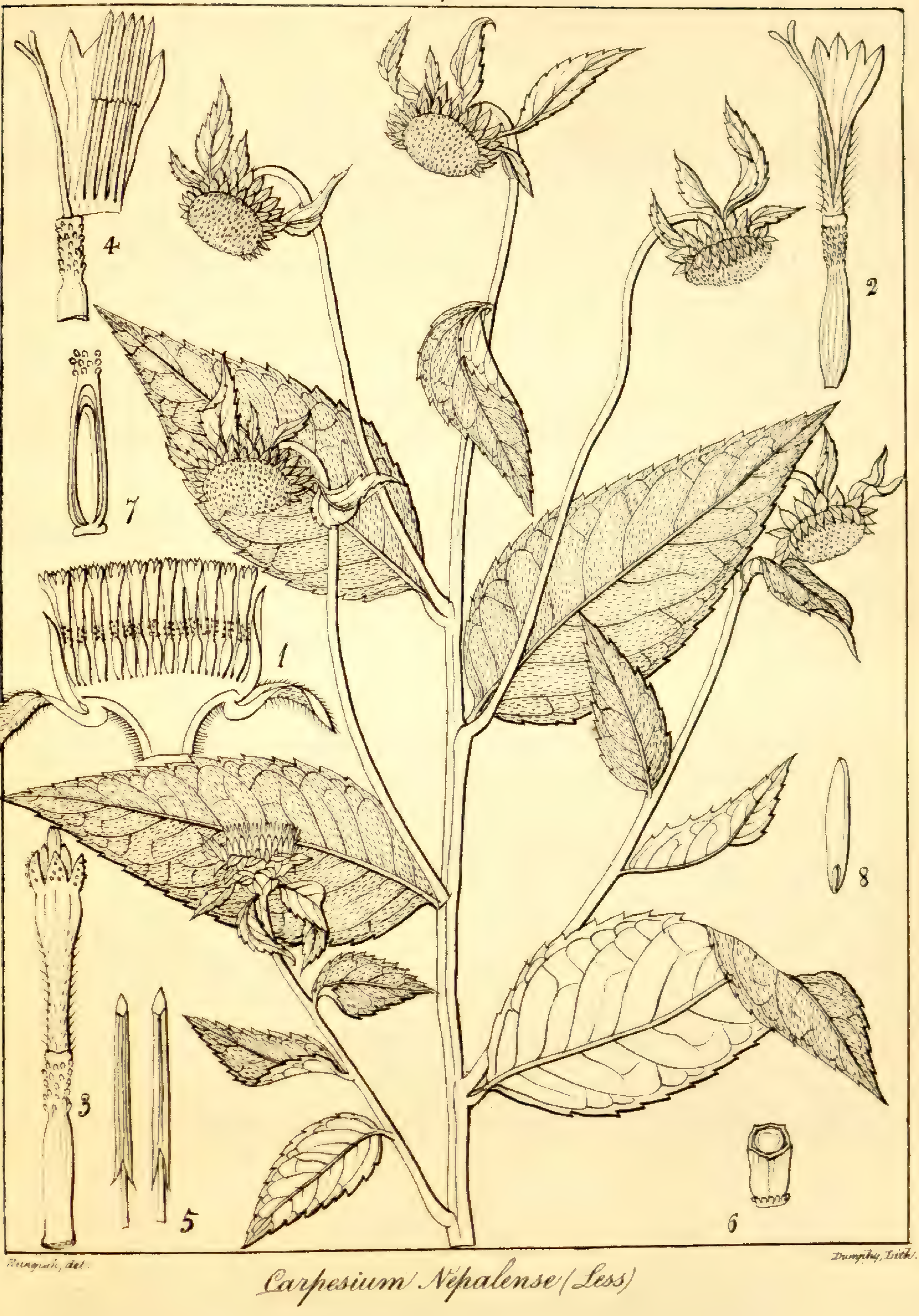
Rungiah, del. Dumphy, lith.

Anaphalis elliptica (D.C)



Rungiah, del. Dunphy, Lith.

Anaphalis aristata (D.C.)



Rungiah, del. Dumphy, Lith.

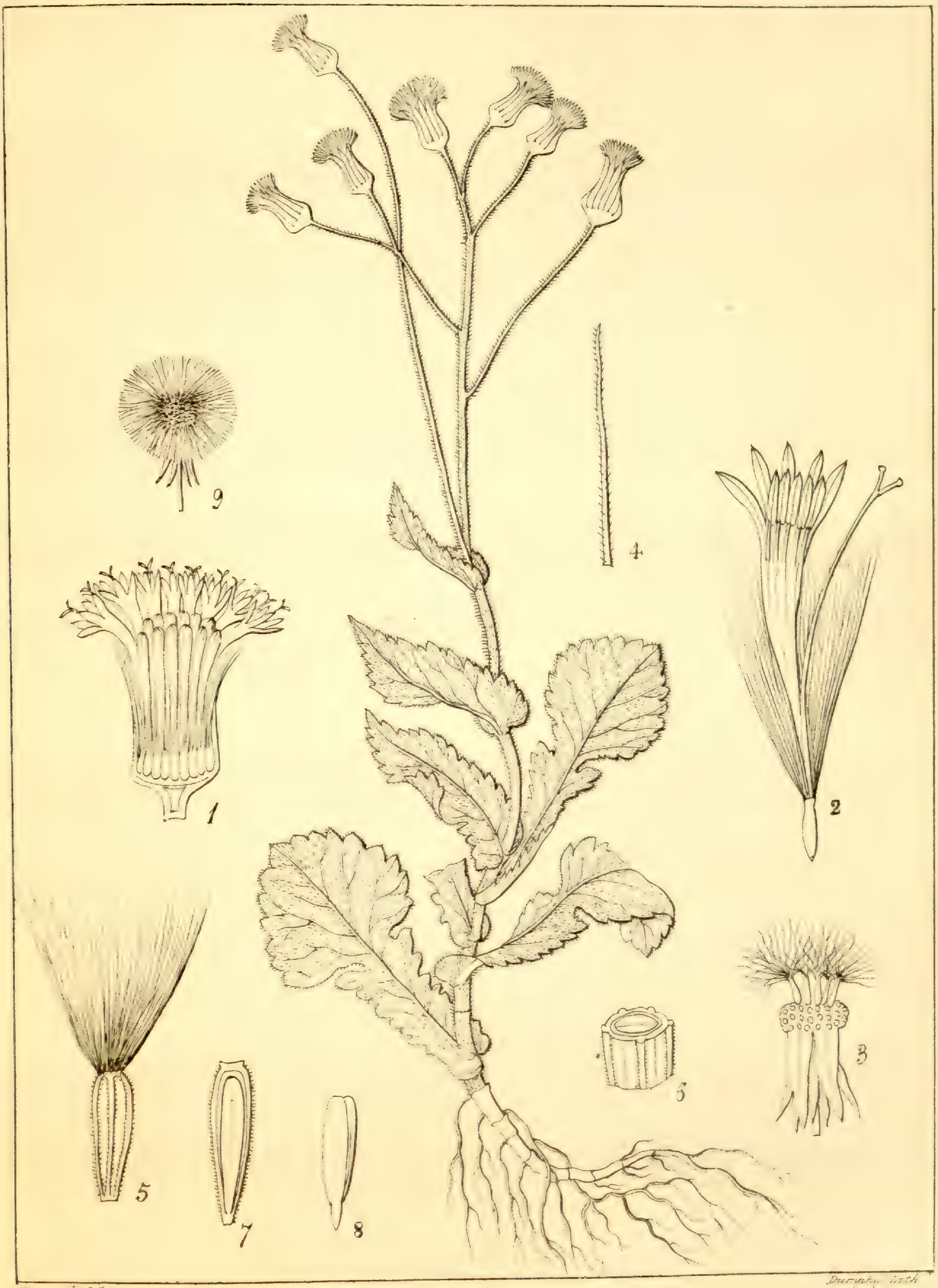
Carpesium Nepalense (Less)

Rungiah, del. Dumphy. Lith.

Gynura nitida (D.C.)

Rungiah; del

Gynura Walkeri, (R.W.)



Rungiah, del. Dumphy, Lith.

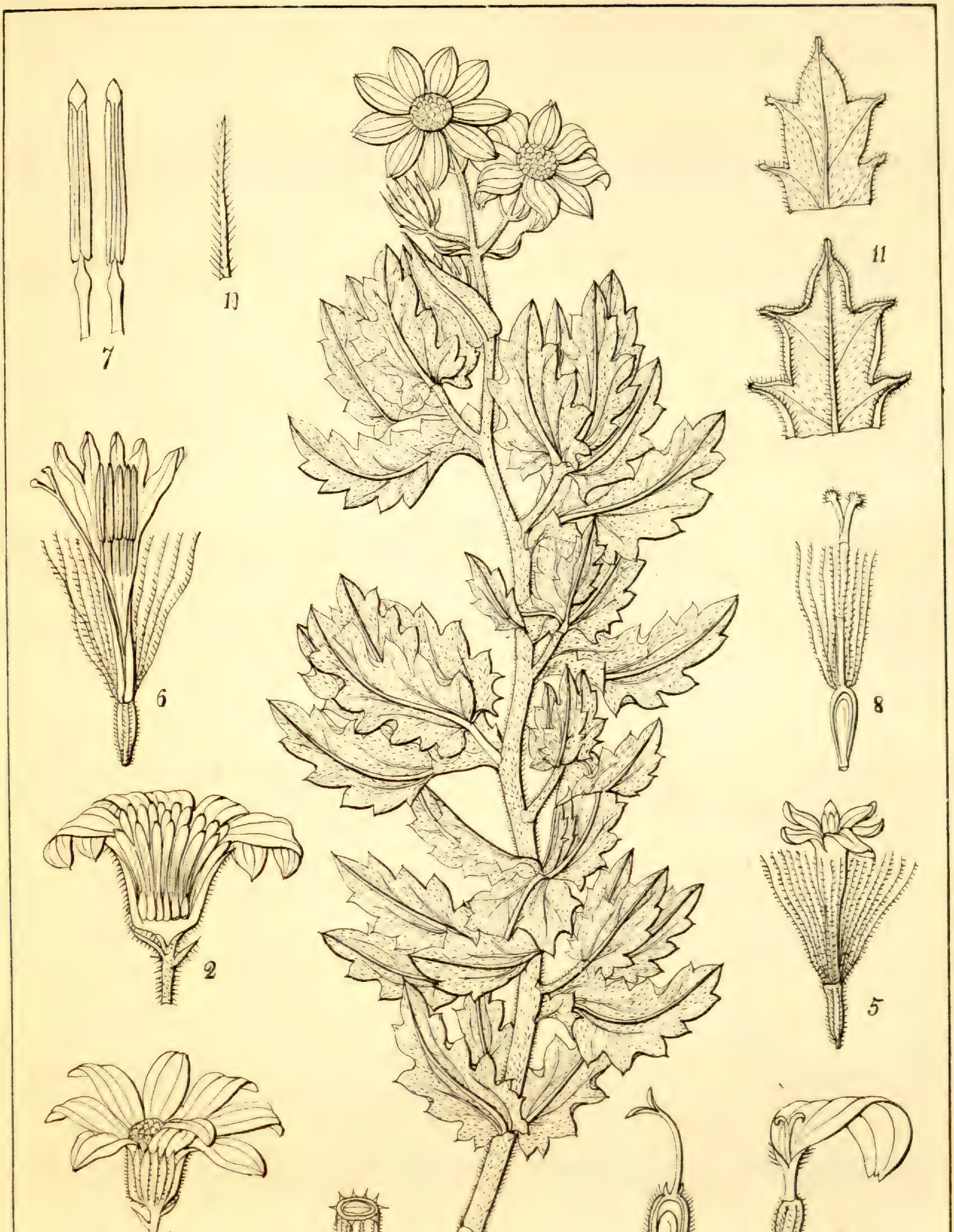
Emilia scabra (D.C)

Rungiah, del. Dunphy, Lith.

Doronicum Wightii (D.C)

Rungiah, del Dumphy, Lith

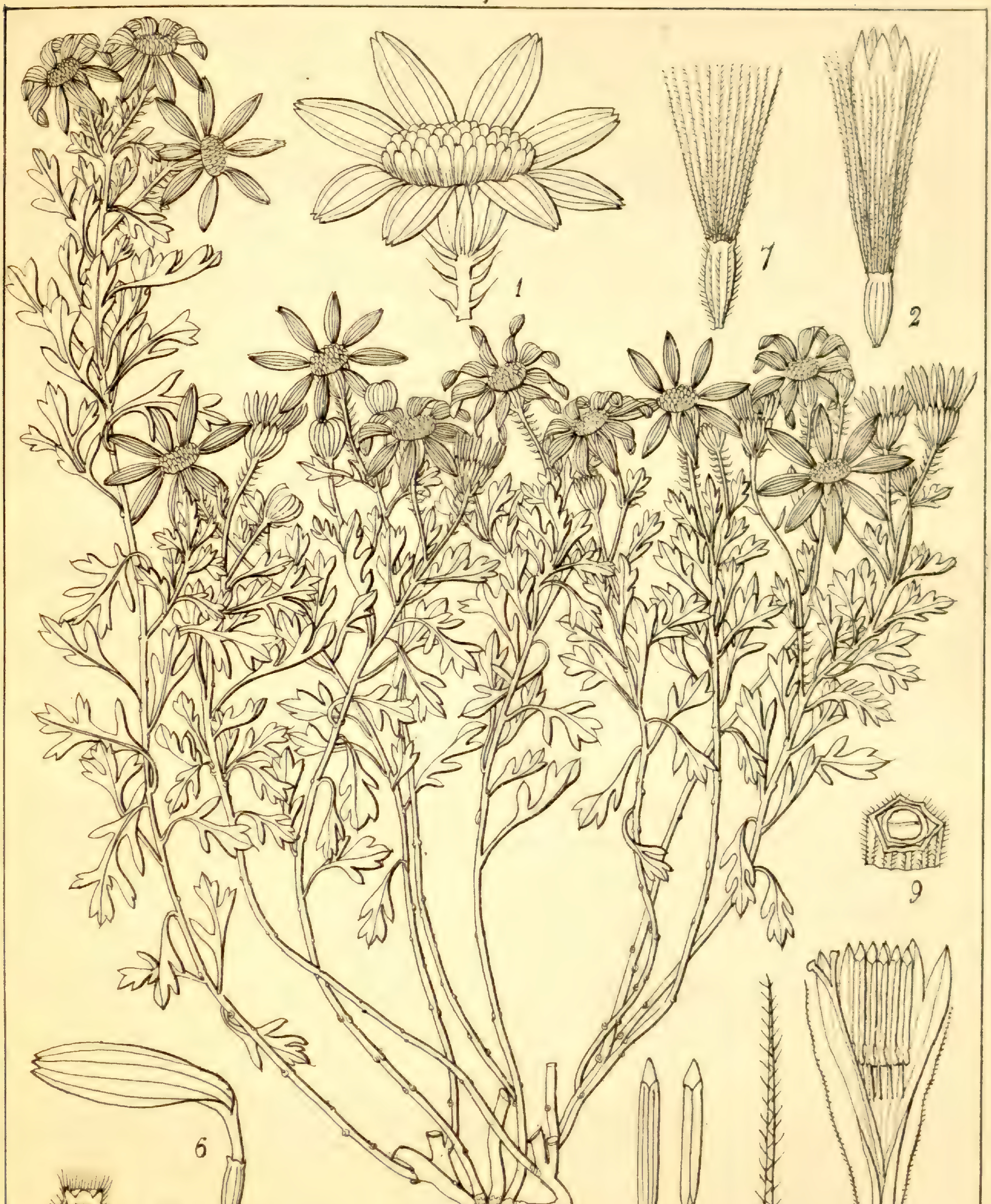
Doronicum Arnottii (D.C)



Rungiah, del. Dumphy, Lith.

Doronicum Lessingianum (Arn)

Doronicum candolianum (Arn)



Rungiah, del. Dumphy, Lith.

Doronicum rupestre.

Doronicum tenuifolium, (R.W.)

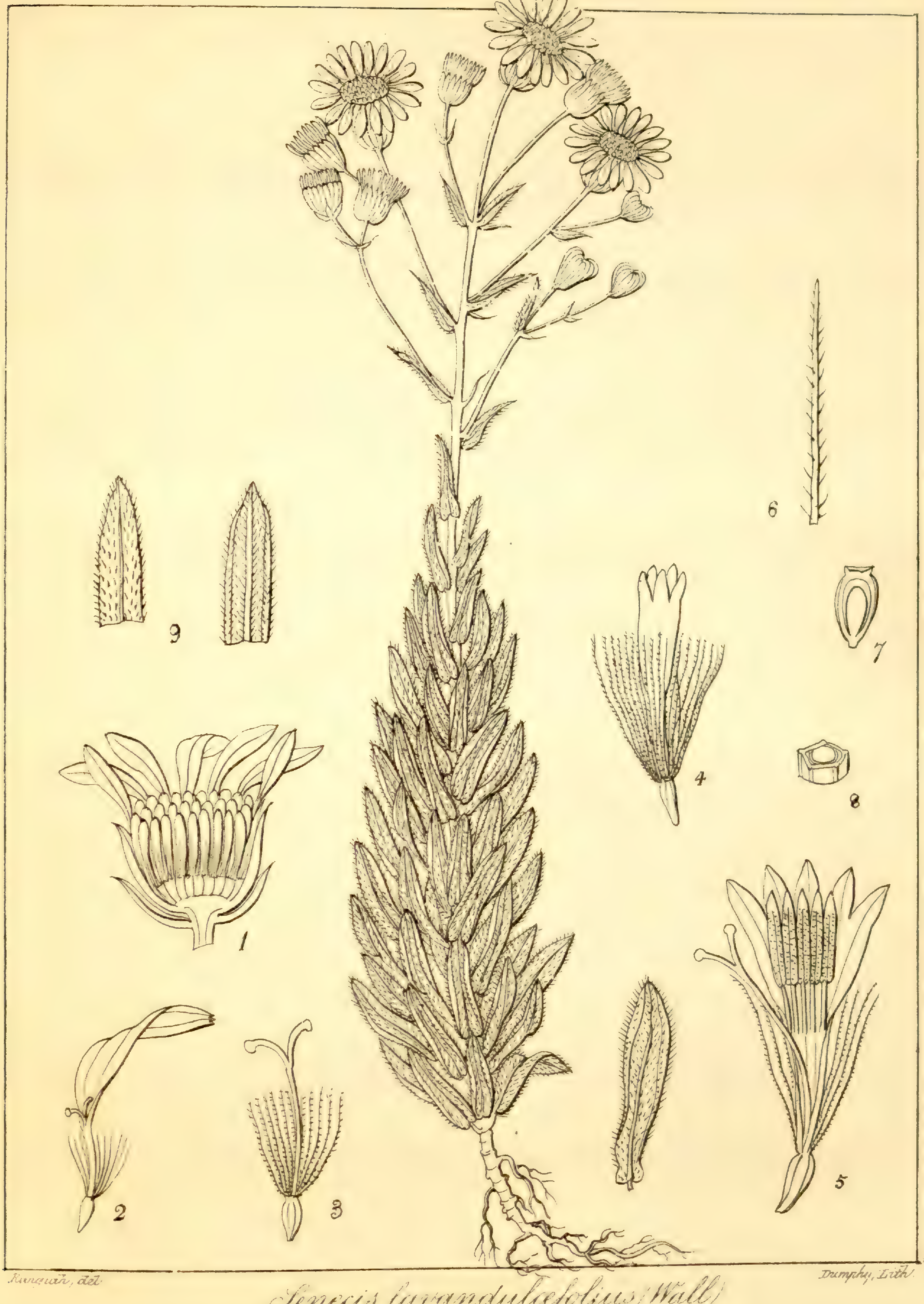
Senecio corymbosus

Rungiah, del. Dunphy, lith.

Senecio Walkeri

Rungiah, Del. Dumphy Lith.

Senecio Neilgherianus (D.C.)



Rungiah, del. Dumphy, Lith.

Senecio lavandulæfolius (Wall)

Rungiah del. Dumphy Lith.

Senecio candicans (Wall.)

Rungiah, del. Dumphy, Lith.

Senecio intermedius (R.W.)

Rungiah, del. Dumphy, Lith.

Senecio Wightianus (D.C.)

Rungiah del. Dumphy, Lith.

Cirsium argyracanthum (D.C.)

Rungiah, del. Dumphy, Lith.

Tricholepis procumbens

Rungiah, del. Dumphy, Lith.

Dicoma lanuginosa (D.C.)

Dunphy lith.

Sonchus ciliatus (Lam.)

Rungiah del. Dumphy Lith

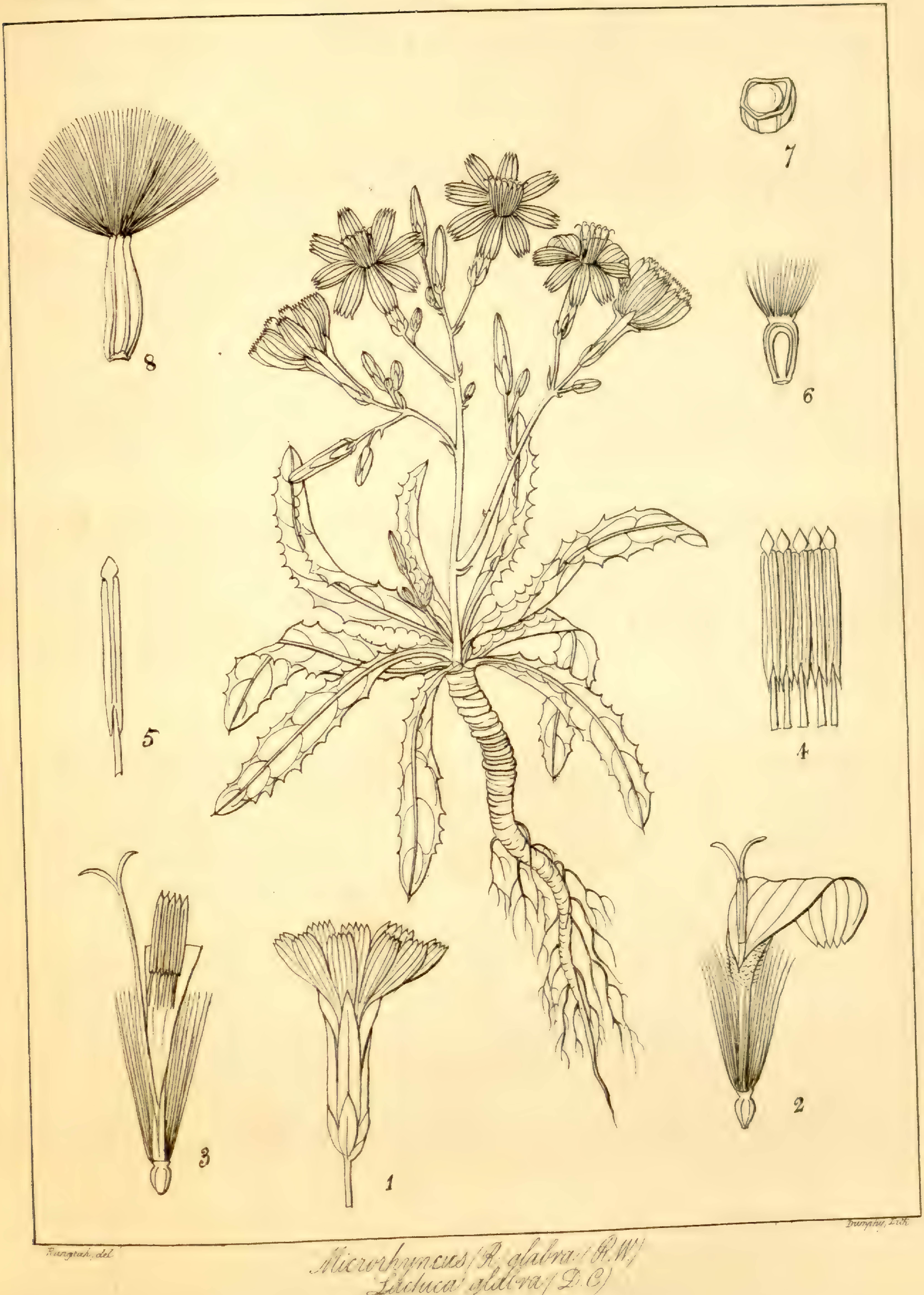
Sonchus Wightianus (D.C)

Rungiah, del. Dumphy, Lith.

Picris hieracioides (Lin.)

Rungiah, del. Dumphy, Lith.

Mulgedium Neilgheryense (R.W.)



Rungiah, del. Dumphy, Lith.

Microrhyncus (R. glabra (R.W.)
Lactuca glabra (D.C.)

Rungiah, del.

Brachyramphus Heyneanus (R. W.)
Lactuca Heyneana (D. C.)

Rungiah del.

Youngia napifolia

Govindoo, del. Dumphy, lith.

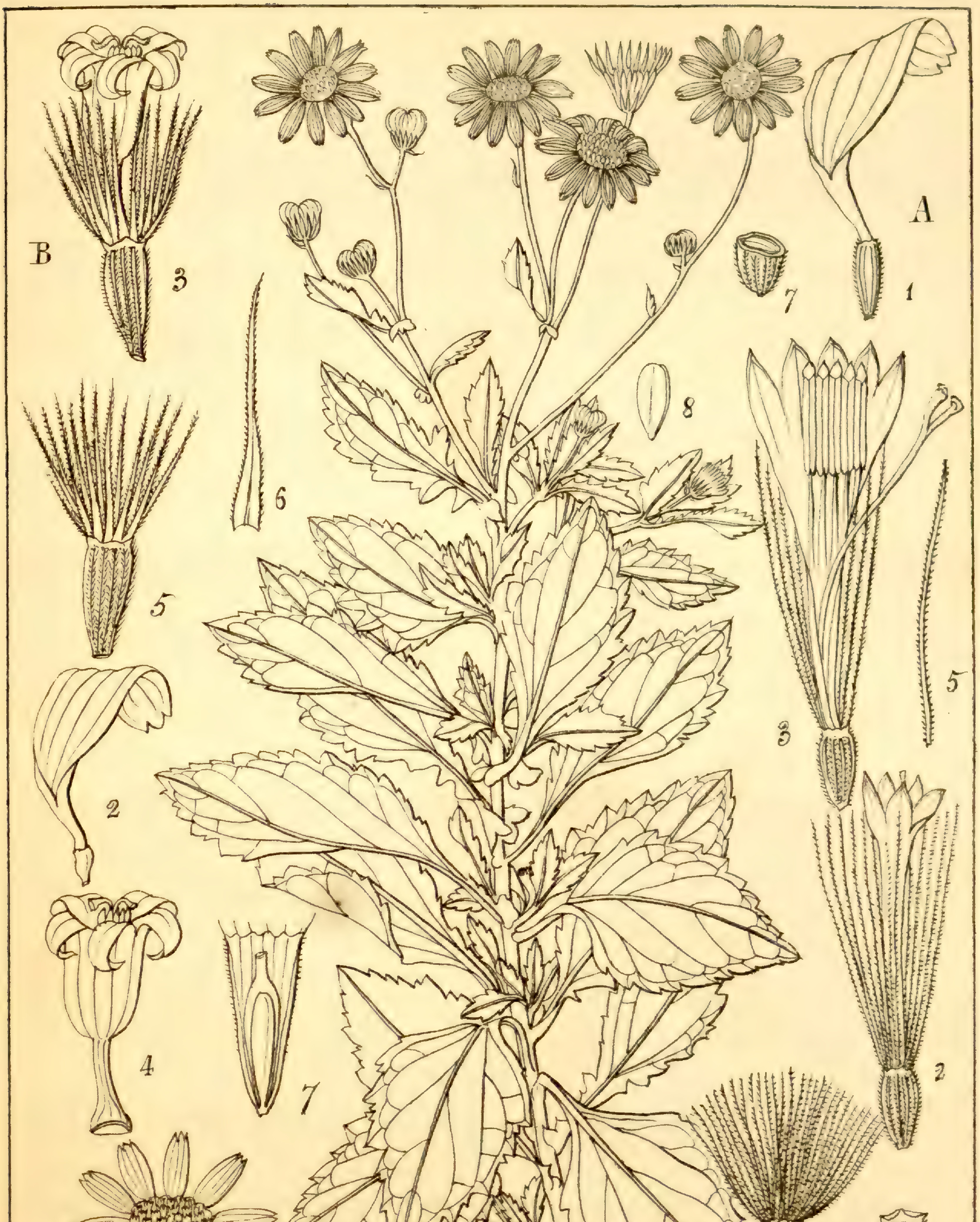
Vicoa Indica (D.C.)

Rungiah, del. Dunphy, Lith

Oligolepis amaranthoides (D.C.)

Govindoo del. Dunphy, Lith.

Cyathocline lutea (Law MSS)



A *Doronicum tomentosum* (R.W.)
B *Doronicum reticulatum* (R.W.)

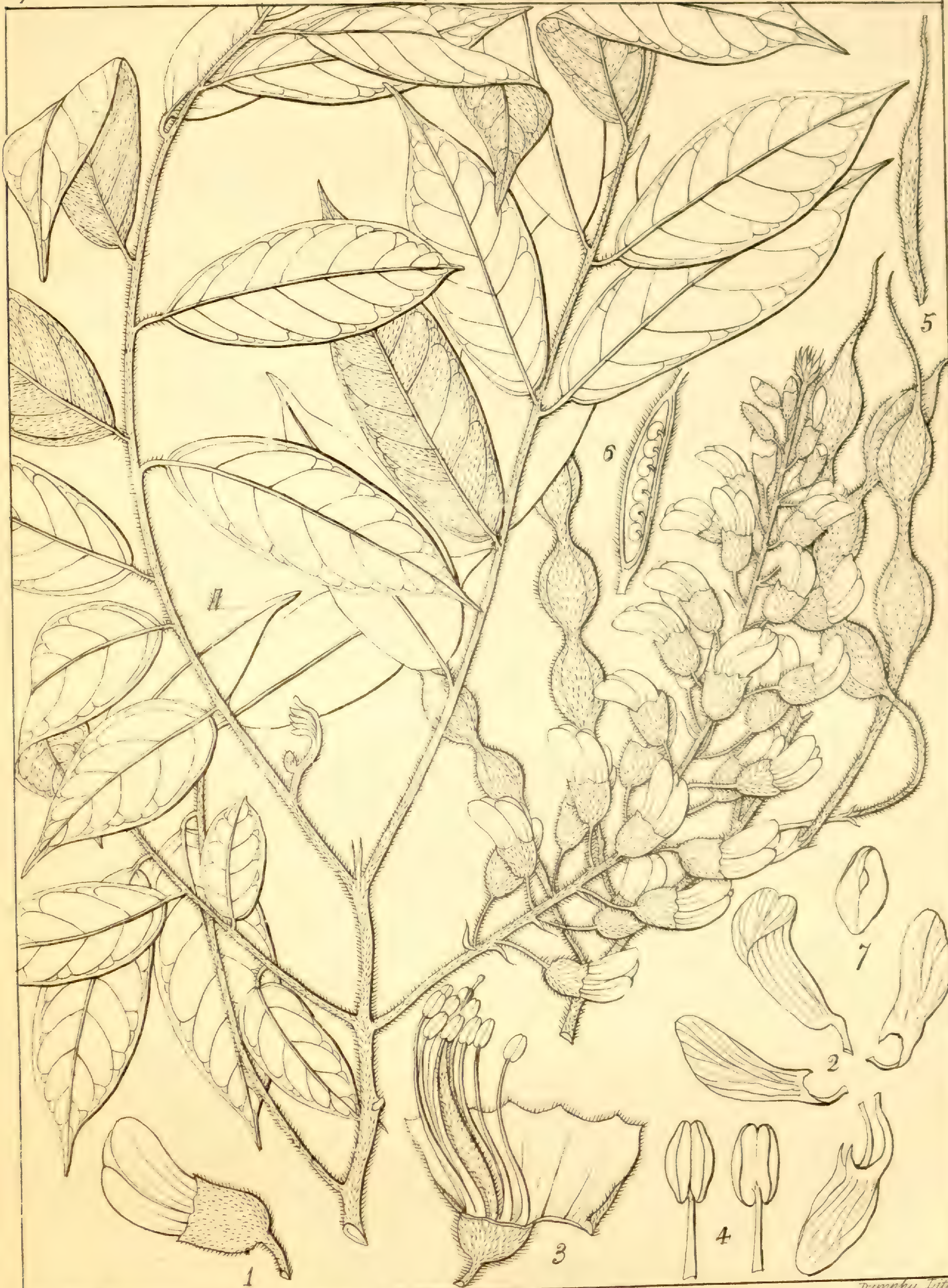
Rungiah del. Dumphy, Lith

Madacarpus Belgaumensis

Rungiah, del. Dumphy, Lith.

Apodytes Benthamiana, R.W.

Leea macrophylla (Roxb.)

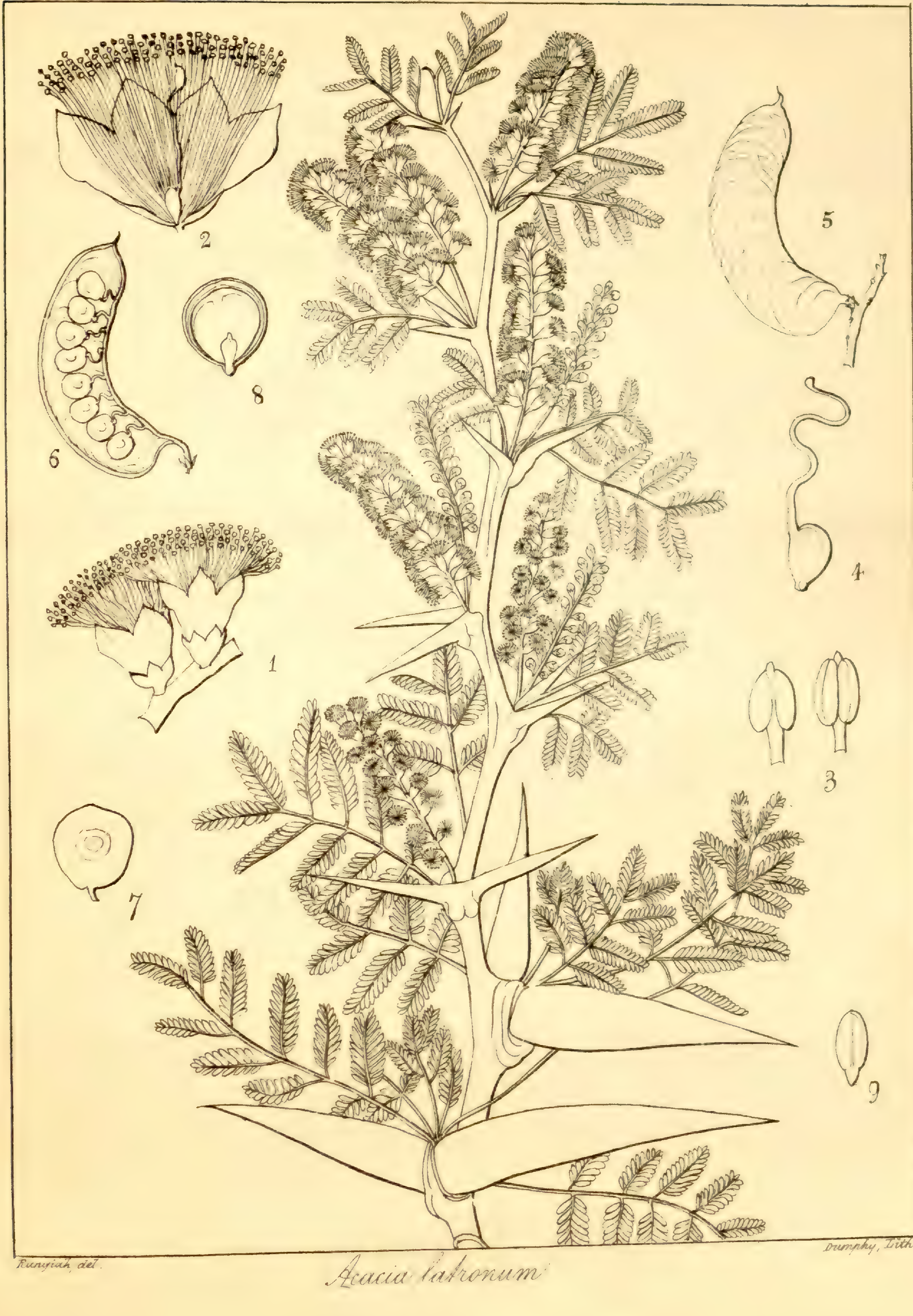


Govindoo, del. Dumphy, Lith.

Sophora heptaphylla. (Linn)

Rungiah, del. Dumphy, Lith.

Dalbergia latifolia (Roxb)
parvifolia



Rungiah, del. Dumphy, Lith.

Acacia latronum

Rungiah, del. Dumphy, Lith.

Kalanchoe laciniata (D.C.)

Rungiah, del. Dumphy, Lith.

Hymenodyction obovatum (Wall)

Rungiah, del. Dumphy, Lith.

Argostemma Courtallense (Arn)

Rungiah, del. Dumphy, Lith.

Greenia Wightiana (W & A)

Rungiah, del. Dunphy, Lith.

Ophiorrhiza Harrisonii (?) Heyne